### Humans

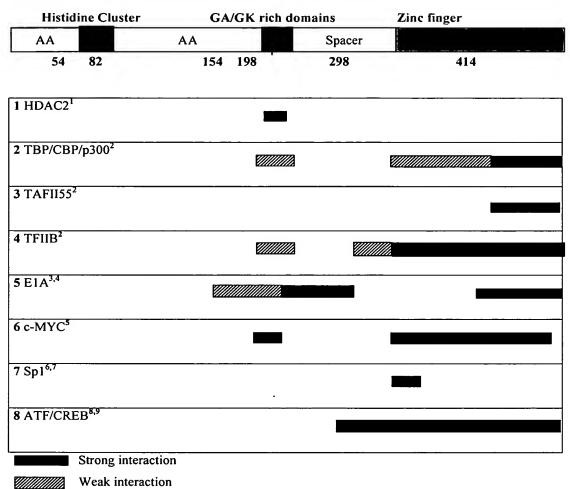
Histid	line Cluster	GA and G	K rich domains	Zinc finger
AA		AA	Spacer	
54	82	154 198	298	414

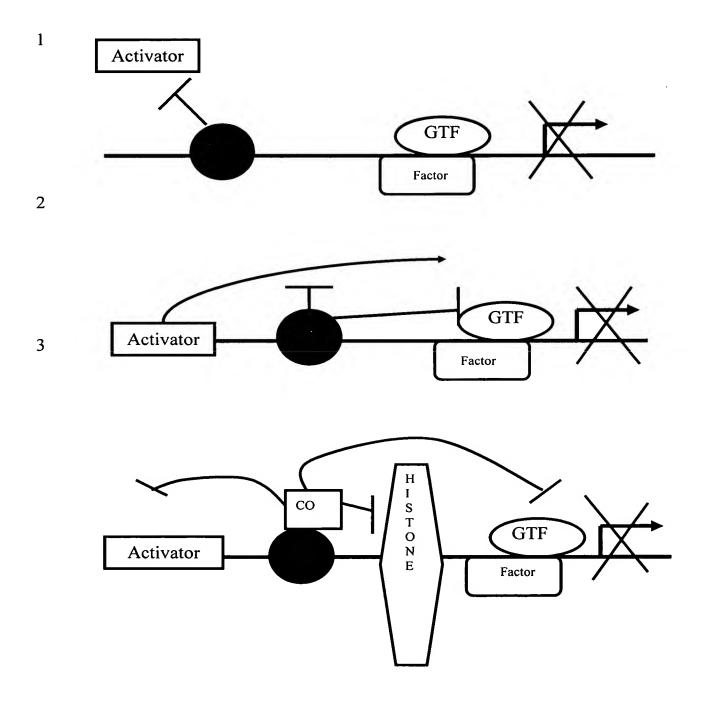
1 Austen et al. 1997 <sup>a</sup>	
2 Bushmeyer et al. 1995 b	
3 Galvin and Shi 1997	
4 Yang et al. 1996 <sup>b</sup>	
5 Shi et al. 1991	
3 3m et al. 1991	
6 Lee at al. b 1995 b	
7 Lee at al. 1994	
8 Lewis et al. 1995 b	
9 Bushmeyer and Atchison 1998 b	

- a Activation and DNA-binding domains overlapping
- b Gal<sup>4</sup> DNA-binding domain fusion

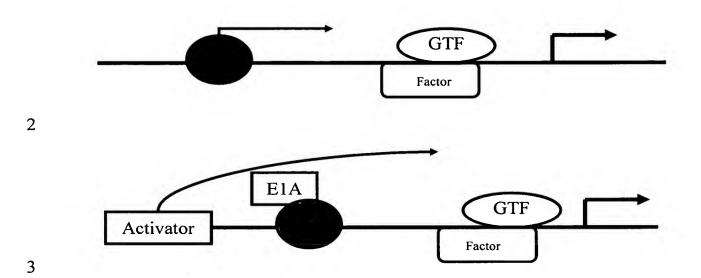
Activation Repression

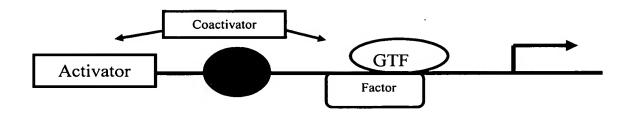
### Humans

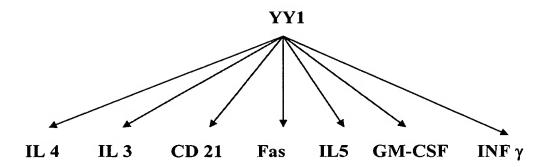




1

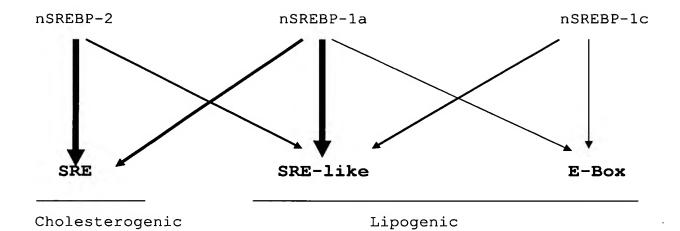




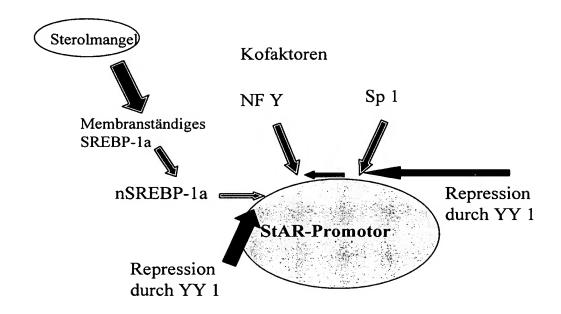


Activation and inhibition by YY1

Enzymes



Enzymes



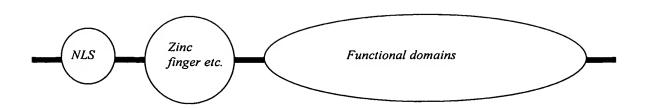
### Key:

Sterolmangel = Sterol deficiency

Kofaktoren = Cofactors

Membranständiges SREBP-1a = Membrane bound SREBP-1a

Repression durch YY1 = Repression by YY1



## Sequence and protein comparison

			AGCCCAGGAGCCGAGG	ectecceceecceteece ecteccececceteecece {c <u>eāee</u> eceececece
GAGCCCTCAGCC ATG	GCC TCG GGC	GAC ACC CTC	TAC ATT GCC ACG	G GAC GGC TCG GAG ATG G GAC GGC TCG GAG ATG G GAC GGC TCG GAG ATG
CCA GCC GAG ATC G	TG GAA CTG CA	AT GAG ATT GA	AG GTG GAG ACC A	D G S E M
P A E I P A E I	V E L V E L	H E I H E I	E V E T E V E T	I P V E T I
PAEI	V E L V E L	H E I	E V E T E V E T	I P V E T I I P V E T I
GAG ACC ACG GTG G	TG GGC GAG GA TG GGC GAG GA	AG GAG GAC GA AG GAG GAG GA	AC GAC GAA GAC G AG GAC GAE GAC G	GAC GAG GAT GGT GGC GGC GAC GAG GAT GGT GGC GGC GAC GAG GAG GGC G G G G G G G G G G G G G G G G G
E T T V	V G E	E E E		D E D G G G D E D G G G
GGA GAC CAC GGT	GGC GGG GGC G	GGC CAC (	GGG CAC GCT GGC	CAC CAC CAT CAC CAC CAC CAC CAC CAC CAT CAC CAC
G D H G	G G G	G H -	G H A G	н н н н н
G D H G G D H G	G G G G G G	G H - G G H	G H A G G H A G	H
CAC CAC CAC CAC	CCG CC	CC ATG ATC GO	CG CTG CAG CCG C	CTG GTC ACC GAC GAC CCG CTG GTC ACC GAC GAC CCG CTG GTg ACg GAC GAC CCG
н н н н	P	P M I	A L Q P	L V T D D P
H H H H H H H H	Р <u>Н Н</u> Р	P M I P M I	A L Q P A L Q P	L V T D D P L V T D D P
ACC CAA GTG CAC	CAC CAC CAA	GAG GTG ATT (	CTG GTG CAG ACG	CGC GAG GAG GTA GTG GGT CGC GAG GAG GTA GTG GGT CGC GAG GAG GTE GTE GGG
T Q V H T Q V H T Q V H	H H Q H H Q H H Q	E V I E V I E V I	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	R E E V V G R E E V V G R E E V V G

E

#### Figure 9 - 1. Continued

GGC GAC GAC TCG GAC GGG CTG CGC GCC GAG GAC GGG TTC GAG GAC CAG ATC CTC ATT CCG GGC GAC GAC TCG GAC GGG CTG CGC GCC GAG GAC GGG TTC GAG GAC CAG ATC CTC ATT CCG GGG GAC GAC TCG GAC GGG CTG CGC GCC GAG GAC GGC TTC GAG GAC GAG ATC CTC ATE CCG Р G L R Α E G F G F Ε D  $\mathbf{L}$ Ρ D D G L R Α E D Q D G L R Α Ε D G F Ε GTA CCC GCG CCG GCC GGA GAC GAC GAC TAC ATC GAG CAG ACG CTG GTC ACC GTG GCG GTA CCC GCG CCG GCC GGC GGA GAC GAC GAC TAC ATC GAG CAG ACG CTG GTC ACC GTG GCG GTO CCC GCG CCG GCC GGC GGC GAC GAC GAC TAC ATO GAG CAG ACG CTG GTC ACC GTG GCC Т V E Т Α А Ρ Α G G D D D Y Ι 0 L V Α V Р Ρ G D D D Y Ι Ε T L V Т Α Α G Q E V Р D D Т Т Α Q GCG GCC GGC AAG AGC GGT GGC GGG TCT TCG TCG GGC GGC GGC CGC GTT AAG AAG GGC GGC GCG GCC GGC AAG AGC GGT GGC GGG TCT TCG TCG GGC GGC GGC CGC GTT AAG AAG GGC GGC GCG GCC GGC AAG AGC GGE GGC GGG GCE TCG TCG GGC GGC GGE CGC GTG AAG AAG GGC <u>GGC</u> K K G G Α Α G K G G G G G R Α G S G · G G S S G G G R V K G G Α K K G R K G Α G G K S G K K S Y L G S G A G A Α G S G K K S Y L G G G A G GGC GCC GAC CCG GGT AAT AAG AAG TGG GAA CAG AAG CAG GTG CAG ATC AAG ACC CTG GAG GGC GCC GAC CCG GGT AAT AAG AAG TGG GAA CAG AAG CAG GTG CAG ATC AAG ACC CTG GAG GGC GCC GAC CCG GGG AAT AAG AAG TGG GAG CAG AAG CAG GTG CAG ATC AAG ACC CTG GAG G Α D Р G K W Ε Q K Q I K Т L E N K Q G Α D Ρ G N K K W Ε Q K Q V 0 Ι K Т L Ε D P G N K W Ε GGC GAG TTC TCG GTC ACC ATG TGG TCT TCA GAT GAA AAA AAA GAT ATT GAC CAT GAA ACA GGC GAG TTC TCG GTC ACC ATG TGG TCT TCA GAT GAA AAA AAA GAT ATT GAC CAT GAA ACA GGC GAG TOC TCG GTC ACC ATG TGG TCO TCO GAT GAA AAA AAA GAT ATT GAC CAT GAA ACA T Ε Т G Ε S V W S S D Ε K K D Ι D Η G Ε s V S S D E D Ι D Η E Т K Т GTG GTT GAA GAG CAG ATC ATT GGG GAG AAC TCA CCT CCT GAT TAT TCT GAA TAT ATG ACA GTG GTT GAA GAG CAG ATC ATT GGG GAG AAC TCA CCT CCT GAT TAT TCT GAA TAT ATG ACA GTG GTT GAA GAG CAG ATC ATT GGT GAG AAC TCA CCT CCT GAT TAT TCT GAA TAT ATG ACA E E Q Ι Ι G Ε N S P P D Y S Ε Y M Ε G Ε N S Ρ Ρ D Y S E Y Μ 0 Т Т G Ε N S Р Ρ D Υ S Ε Y

### Figure 9 - 2. Continued

000			am a	000	0.05		000		~~=					ma.	212	200			
																		CAA	CTG
																			CTG
G	K	K	L	Р	Р	G	G	I	P	G	I	D	L	S	D	P	K	0	L
G	K	K	L	P	P	G	G	Ī	P	G	I	D	L	S	D	P	K	Q	L
G	K	K	L	P	P	G	G	I	Р	G	I	D	L	S	D	P	K	Q	L
GCA	GAA	TTT	GCC	AGA	ATG	AAG	CCA	AGA	AAA	ATT	AAA	GAA	GAT	GAT	GCT	CCA	AGA	ACA	АТА
GCA (	GAA '	TTT (	GCC I	AGA Z	ATG A	AAG (	CCA A	AGA A	AAA A	ATT A	AAA (	GAA (	GAT (	GAT (	GCT (	CCA A	AGA A	ACA A	ATA
GCA	GAA	TTT	GCC	AGA	ATG	AAG	CCA	AGA	AAA	ATT	AAA	GAA	GAT	GAT	GCT	CCA	AGA	ACA	ATA
A	E	F	A	R	М	K	P	R	K	I	K	E	D	D	A	P	R	Т	I
A	E	F	Α	R	M	K	P	R	K	I	K	E	D	D	Α	P	R	T	I
A	E	F	A	R	М	K	Р	R	K	I	K	Ē	D	D	A	P	R	Т	Ι
																		AAG	
																		AAG	
GCT			CAT		GGC	TGC	ACA	AAG	ATG	TTC	AGG	GAT	AAC	TCT	GCT	ATG	AGA	AAG	CAT
A	c '	P .	H	K	G	С	${f T}$	K	M	F	R	D	N	S	А	М	Ŕ	K	Н
А	C	P	Н	K	Ğ	Č	$\dot{\mathbf{T}}$	K	M R M	F	R	D	N	S	A	M	R K R	K	Н
Α	С	P	Н	K	G	С	Т	K	М	F	R	D	N	S	Α	М	B	K	Н
CTG	CAC	ACC	CAC	GGT	CCC	AGA	GTC	CAC	GTC	TGT	GCA	GAA	TGT	GGC	AAA	GCG	TTC	GTT	GAG
																		GTT	
CTG	CAC	ACC	CAC	GGT	CCC	AGA	GTC	CAC	GTC	TGT	GCA	GAG	TGT	GGC	AAA	GCG	TTC	GTT	GAG
L	Н	Т	Н	G	Р	R	V	Н	V	С	Α	E	С	G	K	Α	F	V	E
$\mathbf{L}$	Н	T	Н	G	P	R	V	Н	V	С	Α	E	С	G	K	Α	F	V	E
L	Н	Т	Н	G	P	R	V	Н	V	С	A	E	С	G	K	A	F	V	E
AGC	TCA	AAG	СТА	AAA	CGA	CAC	CAG	CTG	GTT	CAT	ACT	GGA	GAA	AAG	CCC	TTT	CAG-	-GTAC	GAGC
AGC 1																			
AGC	TCA	AAG	CTA	AAA	CGA	CAC	CAG	CTG	GTT	CAT	ACT	GGA	GAA	AAG	CCC	TTT	CAG-		<b>-</b>
S	s	K	L	K	R	Н	Q	L	V	Н	Т	G	E	K	P	F	Q		
S	S	K	L	K	R	Н	Q	L	V	Н	$\mathbf{T}$	G	E	K	P	F	Q		
S	S	K	L	K	R	Н	Q	L	V	Н	T	G	E	K	P	F	Q		
CAGTT	гсстс	TTTC	CCAZ	ААСТО	CAAC	ርጥ <u>አ</u> ር	GGTO	CTGC	ር የ	aggr(	<u> </u> ርጥጥ(	מדמי	מממח	CAC	гатсо	3GGC)	acce(	<b>ጉ</b> ጥ	
CAGTI																			
TGGGG	<b>ርጥል</b> ጥና	יתיים.	ייירר	רמי	ጉርጥር	ጉጥርጥ(	ጉጥርር	יייככנ	<u>፡</u> ሞሞርረ	ጉጥርር፣	ייים	የርርጥ	recei	ነ የ	- ۵۵۵	ר ביים	י אר א כי	ΔТ	
TGGGG																			
																		'	
GCCCC	ביוויררי	۰۵۵۵	\ ጥጥ አ n	יים ביי	ת <i>א</i> ררי	۸۵۵۵	ירארי	\Cmn 1	אחיייר	י עייטט	~~~~	ניתיתיתים	יממי	ነ አ አ ም ም	מ א חיו	~ n C mr	րատշո	րարա	
GGGGG																			
										1110	20.100	111	.0.11		- 0. 11 10	J. 1 J I .			

#### Figure 9 - 3. Continued

GTGCTGCTTATAGAAGAC@CGTGAGTTGACAGTTGGCATCACTAAATATCTTAATCATCTGTAGTCTACTTCCT GTGCTGCTTATAGAAGACaCGTGAGTTGACAGTTGGCATCACTAAATATCTTAATCATCTGTAGTCTACTTCCT AGAGTGTCTCTGAAAACACTCAAGCTGTAAATTTGCACTCAGCACAGCCCTTCTGTTTCTCAAGAACTAGCCAT AGAGTGTCTCTGAAAACACTCAAGCTGTAAATTTGCACTCAGCACAGCCCTTCTGTTTCTCAAGAACTAGCCAT GGGTTGTTAGTATCAGAGATCCCAGTGTGTCAGTTCTAAAATACCCTCA@AAGGGTTCCAGACGAGGAAGGAGG **E**TGCTCAGCAGAATAGTAGGTGGTTTCCATCTAAGCAGTGAGCCATCGATCCCCAGGTTCTGGTCTCATTTGC Cetgctcagcagaatagtaggtggtttccatctaagcagtgagccatcgatccccaggttctggtctcatttgc CAAGAGGGTTGATATCTGGTTTTTCCTTGACAG -TGC ACA CAAGAGGGTTGATATCTGGTTTTTCCTTGACAG -TGC ACA С T С T С  $\mathbf{T}$ 

TTC GAA GGC TGC GGG AAG CGC TTT TCA CTG GAC TTC AAT TTG CGC ACG CAT GTG CGA ATC TTC GAA GGC TGC GGG AAG CGC TTT TCA CTG GAC TTC AAT TTG CGC ACG CAT GTG CGA ATC TTC GAA GGC TGC GGG AAG CGC TTT TCA CTG GAC TTC AAT TTG CGC ACT CAT GTG GGA ATC E G C G K R F S L D F N R V F L T H T Н  $\mathbf{L}$ F F С D E G G K R F S Т V Ν L R Ι s  ${f L}$ F N L Н С V F E G G K R F D R T Ι CAT ACC GGA GAC AGG CCC TAT GTG TGC CCC TTC GAC GGT TGT AAT AAG AAG TTT GCT CAG CAT ACC GGA GAC AGG CCC TAT GTG TGC CCC TTC GAC GGT TGT AAT AAG AAG TTT GCT CAG CAT ACC GGA GAC AGG CCC TAT GTG TGC CCC TTC GAC GGT TGT AAT AAG AAG TTT GCT CAG С F G D R Р Y Ρ F D G C N K K Α Q С P Y V P F D G C N F Н т G D R K K Α Q N Н R Р F K K F 0 TCA ACT AAC CTG AAA TCT CAC ATC TTA ACA CAC GCT AAA GCC AAA AAC AAC CAG TGA TCA ACT AAC CTG AAA TCT CAC ATC TTA ACA CAC GCT AAA GCC AAA AAC AAC CAG TGA TCA ACT AAC CTG AAA TCT CAC ATC TTA ACA CAC GCT AAA GCC AAA AAC AAC CAG TGA Zinc finger \* S T N Q N L K Н I L Т Н Α K Α K N S Т T H N L K S H I L Α K Α K N N Q S т K S H T I. т н

#### Figure 9 - 4. Continued

TTTTGATAAAGTAGTAAAAATTTAAAAAAATACTTTAATAAGATGACATTGCTAAGATGC TTTTGATAAAGTAGTAAAAATTTAAAAAAATACTTTAATAAGATGACATTGCTAAGATGC TTTTGATAAAGTAGTAAAAATTTAAAAAA-TACTTTAATAAGATGACATTGCTAAGATGC

TCTATCTTGCTCTGTAATCTCGTTTCAAAAACAAGGTGTTTTTGTAAAGTGTGGCCCCAA TCTATCTTGCTCTGTAATCTCGTTTCAAAAACAAGGTGTTTTTGTAAAGTGTGGTCCCAA TÄTATCTTGCTCTGTAATCTCGTTTCAAAAACAAGGTGTTTTTTGTAAAGTGTGGTCCCAA

CAGGAGGACAATTCATGAACTTCGCATCAAAAGACAATTCTTTATACAACAGTGCTAAAA CAGGAGGACAATTCATGAACTTCGCATCAAAAGACAATTCTTTATACAACAGTGCTAAAA CAGGAGGACAATTCATGAACTTCGCATCAAAAGACAATTCTTTATACAACAGTGCTAAAA

ATG ATG ATG

Protein comparison

BBSHR

Homo sapiens

PPMIALQPLVTDDPTQVHHHQEVILVQTREEVVGGDDSDGLRAEDGFEDQILIPVPAPAGGDDDYIEQTLVTVAAAGK
--PPMIALQPLVTDDPTQVHHHQEVILVQTREEVVGGDDSDGLRAEDGFEDQILIPVPAPAGGDDDYIEQTLVTVAAAGK
HHPPMIALQPLVTDDPTQVHHHQEVILVQTREEVVGGDDSDGLRAEDGFEDQILIPVPAPAGGDDDYIEQTLVTVAAAGK

SGGGSSSGGGRVKKGGGKKSGKKSYLGSGAGAAGGGGADPGNKKWEQKQVQIKTLEGEFSVTMWSSDEKKDIDHETVVEE SGGGSSSGGGRVKKGGGKKSGKKSYLGSGAGAAGGGGADPGNKKWEQKQVQIKTLEGEFSVTMWSSDEKKDIDHETVVEE SGGGASSGGGRVKKGGGKKSGKKSYLGGGAGAAGGGGADPGNKKWEQKQVQIKTLEGESSVTMWSSDEKKDIDHETVVEE

QIIGENSPPDYSEYMTGKKLPPGGIPGIDLSDPKQLAEFARMKPRKIKEDDAPRTIA QIIGENSPPDYSEYMTGKKLPPGGIPGIDLSDPKQLAEFARMKPRKIKEDDAPRTIA QIIGENSPPDYSEYMTGKKLPPGGIPGIDLSDPKQLAEFARMKPRKIKEDDAPRTIA

\*Zinc finger

CPHKGCTKMFRDNSAMRKHLHTHGPRVHVCAECGKAFVESSKLKRHQLVHTGEKPFQCTFEGCGKRFSLDFNLRTHVRIH CPHKGCTKKFRDNSAMKKHLHTHGPRVHVCAECGKAFVESSKLKRHQLVHTGEKPFQCTFEGCGKRFSLDFNLRTHVRIH CPHKGCTKMFRDNSAMRKHLHTHGPRVHVCAECGKAFVESSKLKRHQLVHTGEKPFQCTFEGCGKRFSLDFNLRTHVGIH

Zinc finger\*
TGDRPYVCPFDGCNKKFAQSTNLKSHILTH
TGDRPYVCPFDGCNKKFAQSTNLKSHILTH
TGDRPYVCPFDGCNKKFAQSTNLKSHILTH

AKAKNNQ\*

AKAKNNQ\*

AKAKNNQ\*

n=411/414

## YY1 primers

Designation	Position	Primer sequences
K823-F (Promotor)		CAC AGG CGT TTC TCG TCA GAG
K825-R (Promotor)		AAT ACC AAC TCC TCA ACC CCG A
K884-F	-104	CTT CCT CCC TCT GCC TTC CTT
K801-F	55-75	GAG ATC GTG GAA CTG CAT GAG
K827-R	127-150	GTC TTC GTC GTC GTC CTC CTC
K814-F	417-437	CGG AGA CGA CTA CAT CGA
K806-R	428-452	GTG ACC AGC GTC TGC TCG ATG TAG T
K804-R	529-550	CCA GGT AAC TCT TCT TGC CGC
K805-R	589-610	G TT CCC ACT TCT TAT TAC CCG G
K828-F	627-648	CAA GAC CCT GGA GGG CGA GTT C
K830-F	697-721	ACA GTG GTT GAA GAG CAG ATC ATT G
K829-R	690-722	CCA ATG ATC TGC TCT TCA ACC AC
K831-F	839-866	GCC AAG AAA AAT TAA AGA AGA TGA TGC
K832-R	856-881	GCT ATT GTT CTT GGA GCA TCA TCT TC
K815-F	997-1021	GAG AGC TCA AAG CTA AAA CGA CAC C
K833-R	1026-1050	AAA GGG CTT TTC TCC AGT ATG AAC C
K817-R	1077-1099	AAT TGA AGT CCA GTG AAA AGG GC
K816-F	1105-1126	ACG CAT GTG CGA ATC CAT ACC G
K870-R	1346-1372	CAA AAC ATG TCC CTT AAG TGT GTA GGA
K818-R	1501-1528	AAT TGT AAG CAA CAG GTG AGC TTC ATG
K821-F (Intron 3)		GCG AAG CAC CCC CAC ACT AAA TTT C
K874-F (Intron 3)		GCT TAT AAG TGC TGT TGG CTA CAG CT
K875-R (Intron 3)		GTC ACC TGG AGC TGT AGC CAA C

F1	10	1	TCACTGGACTTCAATTTGCGC	(1084)
F2	12	1	TTTTCACTGGACTTCAATTTGCG	(1081)
F3	12	1	ACCAGATCCTCATTCCGGTACC	(383)
F4	14	1	CCCTTTCAGTGCACATTCGAA	(1045)
F5	15	1	GACGACGAGACGACGAGGAT	(139)
F6	17	1	GAGAGCTCAAAGCTAAAACGACACC	(997)
F7	19	1	GGAGACGACTACATCGAGC	(418)
F8	22	1	CGGAGACGACTACATCGA	(417)
F9	23	1	TGAGAGCTCAAAGCTAAAACGACAC	(996)
F10	24	1	GAGGACCAGATCCTCATTCCG	(379)
F11	26	1	AACTCCCTCCTGGAGGGATACC	(767)
F12	27	1	GAGACGACGACTACATCGAGCAG	(419)
F13	29	2	GAGGAGGACGACGAAGAC	(130)
F14	30	1	TTGAGAGCTCAAAGCTAAAACGACA	(995)
F15	30	1	ACCCTCTACATTGCCACGGAC	(16)
F16	30	1	ACTACATCGAGCAGACGCTGGT	(428)
F17	34	1	GAGCTCAAAGCTAAAACGACACCA	(999)
F18	35	1	TTCAGTGCACATTCGAAGGCT	(1049)
F19	36	2	TGGAGACTATCGAGACCACGGT	(98)
F20	37	1	TTTCAGTGCACATTCGAAGGC	(1048)
F21	39	1	GTGCGAATCCATACCGGAGAC	(1111)
F22	41	1	GAGGTGATTCTGGTGCAGACG	(301)
F23	41	1	ACTCCCTCCTGGAGGGATACCT	(768)
F24	41	2	GTGGAGACTATCGAGACCACGG	(97)
F25	41	1	AGAGGTGATTCTGGTGCAGACG	(300)
F26	42	1	TGAAATCTCACATCTTAACACACGCT	(1190)
F27	43	2	TACATCGAGCAGACGCTGGTC	(430)
F28	43	1	ACGACTACATCGAGCAGACGCT	(425)
F29	43	1	GAAACTCCCTCCTGGAGGGATAC	(765)
F30	49	1	CTGCACAAAGATGTTCAGGGATAAC	(897)

Figure 11	- 1.	Continued		
F31	52	1	AAAACGACACCAGCTGGTTCATAC	(1011)
F32	52	1	TAAAACGACACCAGCTGGTTCATAC	(1011)
F33	53	1	AGAAGAGCGGCAAGAAGAGTTACC	(524)
F34	53	1	ACCTGAAATCTCACATCTTAACACACG	(1187)
F35	53	1	CCTGAAATCTCACATCTTAACACACG	(1188)
F36	55	1	GACACCAGCTGGTTCATACTGGA	(1016)
F37	55	2	GGTGGAGACTATCGAGACCACG	(96)
F38	55	1	AGACGACGACTACATCGAGCAGA	(420)
F39	57	1	CAGTGGTTGAAGAGCAGATCATTG	(698)
F40	57	1	ACAGTGGTTGAAGAGCAGATCATTG	(697)
F41	57	1	GGTTGAAGAGCAGATCATTGGG	(702)
F42	58	1	GGTCCCAGAGTCCACGTCTGT	(952)
F43	59	1	TGCACAAAGATGTTCAGGGATAACT	(898)
F44	60	1	GATGCTCCAAGAACAATAGCTTGC	(862)
F45	62	1	GTCCCAGAGTCCACGTCTGTG	(953)
F46	67	1	GCTTTTCACTGGACTTCAATTTGC	(1079)
F47	67	1	AGTGGTTGAAGAGCAGATCATTGG	(699)
F48	67 71	1	GTGGTTGAAGAGCAGATCATTGG	(700)
F49 F50	71 71	1	AGAGCGGCAAGAAGAGTTACCTG TCACATCTTAACACACGCTAAAGCC	(527)
F51	72	1	ATCTCACATCTTAACACACGCTAAAGCC	(1197) (1194)
F52	73	1	CTGAAATCTCACATCTTAACACACGC	(1189)
F53	74	1	ACGACACCAGCTGGTTCATACTG	(1103)
F54	76	ī	AGATATTGACCATGAAACAGTGGTTGA	(681)
F55	76	1	GATATTGACCATGAAACAGTGGTTGA	(682)
F56	76	1	GAGGGATACCTGGCATTGACCT	(779)
F57	77	1	AGACCATCCCGGTGGAGACTAT	(86)
F58	78	1	GAAGAGCGGCAAGAAGAGTTACCT	(525)
F59	78	3	GGAGACTATCGAGACCACGGTG	(99)
F60	82	1	GGTTCGAGGACCAGATCCTCA	(374)
F61	83	2	GAGCAGATCATTGGGGAGAACTC	(709)
F62	87	1	GAAGATGATGCTCCAAGAACAATAGC	(856)
F63	88	1	CGCTAAAGCCAAAAACAACCAGT	(1212)
F64	88	1	ATACCGGAGACAGGCCCTATGT	(1121)
F65	89	1	CAATAGCTTGCCCTCATAAAGGC	(875)
F66	89	1	AAGATATTGACCATGAAACAGTGGTTG	(680)
F67	89	1	ACAATAGCTTGCCCTCATAAAGGC	(874)
F68	92	1	AGAAAAGCCCTTTCAGTGCACA	(1038)
F69 F70	95 95	-	ATATTGACCATGAAACAGTGGTTGAAG	(683)
F71	95 95	1 1	GCGGCAAGAAGAGTTACCTGG TATTGACCATGAAACAGTGGTTGAAG	(530) (684)
F72	95 95	1	ATTGACCATGAAACAGTGGTTGAAG	(685)
F73	95	1	TTGACCATGAAACAGTGGTTGAAG	(686)
F74	96	ī	GAACAATAGCTTGCCCTCATAAAGG	(872)
F75	96	1	AGAACAATAGCTTGCCCTCATAAAGG	(871)
F76	98	1	ACCTCTCAGACCCCAAGCAACT	(797)
F77	99	1	ACGCTAAAGCCAAAAACAACCAG	(1211)
F78	101	1	AAGATGATGCTCCAAGAACAATAGCTT	(857)
F79	101	1	AAACGACACCAGCTGGTTCATACT	(1012)
F80	102	1	CGACGGTTGTAATAAGAAGTTTGCTC	(1152)
F81	103	1	CAAGAACAATAGCTTGCCCTCATAAA	(869)
F82	103	1	GGAACAGAAGCAGGTGCAGATC	(606)
F83	106	1	AAAAGCCCTTTCAGTGCACATTC	(1040)
F84	106	2	TCTGCTATGAGAAAGCATCTGCAC	(922)
F85	106	1	AAACAGTGGTTGAAGAGCAGATCATT	(695)
F86	106	1	TTCGACGGTTGTAATAAGAAGTTTGC	(1150)
F87	106	1	AGCGTTCGTTGAGAGCTCAAAG	(987)
F88	106 107	1 1	GCCCCTTCGACGGTTGTAATA	(1145)
F89 F90	107	1	CAACTGGCAGAATTTGCCAGA AGTTCTCGGTCACCATGTGGTC	(814) (644)
F91	107	1	TGAGAAAGCATCTGCACACCC	(929)
	100	<u>.</u>	10.10/11/10/11/01/01/01/01/01/01/01/01/01/0	()2)

Figure 11	- 2.	Continued		
F92 F93	108 108	1 1	ATGAGAAAGCATCTGCACACCC TATGAGAAAGCATCTGCACACCC	(928) (927)
F94	111	1	GAGTTCTCGGTCACCATGTGGT	(643)
F95	111	1	CACCACCAAGAGGTGATTC	(289)
F96	111	1	GACGACGACTACATCGAGCAGAC	(421)
F97	112	1	CCCGGTGGAGACTATCGAGAC	(93)
F98	112	1	CAGAAGCAGGTGCAGATCAAGAC	(610)
F99	112	1	GCTAAAGCCAAAAACAACCAGTGA	(1213)
F100	113	1	GACCTCTCAGACCCCAAGCAA	(796)
R1	3	1	GCAAACTTCTTATTACAACCGTCGAA	(1175)
R2	4	1	ACATAGGGCCTGTCTCCGGTAT	(1142)
R3	4	1	AGCAAACTTCTTATTACAACCGTCGA	(1176)
R4	6	1	AGCTTTGAGCTCTCAACGAACG	(1010)
R5	8 8	1	GAGCAAACTTCTTATTACAACCGTCG	(1177)
R6 R7	9	1 1	CTTTGAGCTCTCAACGAACGCT GGTTGTTTTTGGCTTTAGCGTGT	(1008) (1231)
R8	10	1	CTGGTTGTTTTTGGCTTTAGCGT	(1231)
R9	11	1	CCTGTCTCCGGTATGGATTCG	(1134)
R10	12	1	CTGTCTCCGGTATGGATTCGC	(1133)
R11	12	1	GTCTCCGGTATGGATTCGCAC	(1131)
R12	12	1	AGCGTCTGCTCGATGTAGTCGT	(446)
R13	13	1	TTCTGTTCCCACTTCTTATTACCCG	(614)
R14	15	2	TCTGCTCGATGTAGTCGTCGTCT	(442)
R15	15	1	ACTGGTTGTTTTTGGCTTTAGCG	(1234)
R16	16	4	GTCTGCTCGATGTAGTCGTCGTC	(443)
R17	16	4	ATCCTCGTCGTCTTCGTCGTC	(159)
R18	17	1	CAGTATGAACCAGCTGGTGTCGT	(1036)
R19 R20	17 19	1 1	TTGAGCTCTCAACGAACGCTTT AGACCACATGGTGACCGAGAAC	(1006)
R21	19	1	CTTCTTATTACCCGGGTCGGC	(666) (603)
R22	20	1	CTGCTCGATGTAGTCGTCGTCTC	(441)
R23	21	1	TCGATGTAGTCGTCGTCTCCG	(437)
R24	22	ī	TTTGAGCTCTCAACGAACGCTT	(1007)
R25	22	1	CCACTTCTTATTACCCGGGTCG	(606)
R26	22	1	CACTTCTTATTACCCGGGTCGG	(605)
R27	22	1	GACCAGCGTCTGCTCGATGTA	(450)
R28	23	1	AATTGAAGTCCAGTGAAAAGCGC	(1099)
R29	23	1	TGAACCAGCTGGTGTCGTTTTAG	(1031)
R30	23	1	GACCACATGGTGACCGAGAACT	(665)
R31 R32	25	1	AACTTCTTATTACAACCGTCGAAGGG TGTTCCCACTTCTTATTACCCGG	(1172)
R32 R33	25 26	1 3	CCCAGTAACTCTTATTACCCGG	(611)
R34	26	1	AGAGGTCAATGCCAGGTATCCC	(551) (802)
R35	26	2	CCAGGTAACTCTTCTTGCCGC	(550)
R36	27	ī	TTGAAGTCCAGTGAAAAGCGCT	(1097)
R37	29	1	TGAGGATCTGGTCCTCGAACC	(394)
R38	29	1	CACATGGTGACCGAGAACTCG	(662)
R39	29	1	GTATGAACCAGCTGGTGTCGTTTT	(1034)
R40	30	1	TCAATCTCATGCAGTTCCACGAT	(80)
R41	30	1	TCAATCTCATGCAGTTCCACGA	(80)
R42	30	1	AGTATGAACCAGCTGGTGTCGTTT	(1035)
R43	32	1	GGTCTCGATAGTCTCCACCGG	(114)
R44	33	1	AAGACCACATGGTGACCGAGAA	(667)
R45	33	1	CAATCTCATGCAGTTCCACGATC	(79)
R46 R47	34 34	1 2	GGAATGAGGATCTGGTCCTCG	(398)
R47 R48	34	2	TTCCCACTTCTTATTACCCGGGT TGAAGTCCAGTGAAAAGCGCTT	(609) (1096)
R49	35	1	GCTCGATGTAGTCGTCTCC	(439)
		<b>-</b>	55155/1151/16165161616	(30)

Figure 11 - 3. Continued

R50	36	1	GTATGAACCAGCTGGTGTCGTTTTA	(1034)
R51	36	1	TTCCCACTTCTTATTACCCGGG	(609)
R52	42	1	GAATGAGGATCTGGTCCTCGAAC	(397)
R53	43	1	GAGGTCAATGCCAGGTATCCCT	(801)
R54	44	1	GTGGTCTCGATAGTCTCCACCG	(116)
R55	44	1	AGGTAACTCTTCTTGCCGCTCTTC	(548)
R56	45	1	CACATTCTGCACAGACGTGGA	(982)
R57	46	1	AAAGGGCTTTTCTCCAGTATGAACC	(1050)
R58	47	2	ACCATCCTCGTCGTCTTCGTC	(162)
R59	48	1	GCTTCTGTTCCCACTTCTTATTACCC	(616)
R60	48	1	CACATTCTGCACAGACGTGGAC	(982)
R61	49	1	CAGGTAACTCTTCTTGCCGCTCT	(549)
R62	49	1	GATGCTTTCTCATAGCAGAGTTATCCC	(940)
R63	49	1	CTGAAGACCACATGGTGACCG	(670)
R64	50	2	CCTGCTTCTGTTCCCACTTCTTATTAC	(619)
R65	52	1	ACCAGCGTCTGCTCGATGTAGT	(449)
R66	53	1	TCTTATTACAACCGTCGAAGGGG	(1168)
R <b>6</b> 7	53	1	TTGTTTTTGGCTTTAGCGTGTGTT	(1229)
R68	54	1	ACTGAAAGGGCTTTTCTCCAGTATG	(1054)
R69	55	1	CACTGAAAGGGCTTTTCTCCAGTAT	(1055)
R70	57	1	GAGGTGAGTTCTCCCCAATGATC	(736)
R71	58	1	GGTACCGGAATGAGGATCTGGT	(404)
R72	62	1	GTCTCGATAGTCTCCACCGGG	(113)
R73	63	1	CTTCAACCACTGTTTCATGGTCAATA	(709)
R74	64	1	CCTTTATGAGGGCAAGCTATTGTTC	(896)
R75	64	1	CTTCAACCACTGTTTCATGGTCAATAT	(709)
R76	65	1	TTTTTGGCTTTAGCGTGTGTTAAGAT	(1226)
R77	66	1	TTGTTTTTGGCTTTAGCGTGTGTTA	(1229)
R78	69	1	CTTGGGGTCTGAGAGGTCAATG	(813)
R79	71	1	GTCCGTGGCAATGTAGAGGGT	(36)
R80	71	1	TCTGGCAAATTCTGCCAGTTG	(834)
R81	72	1	TCACTGGTTGTTTTTGGCTTTAGC	(1236)
R82	72	1	CTTTGTGCAGCCTTTATGAGGG	(906)
R83	73	1	GTTGTTTTTGGCTTTAGCGTGTGT	(1230)
R84	74	1	TGAAAGGGCTTTTCTCCAGTATGA	(1052)
R85	75	1	GCAAGCTATTGTTCTTGGAGCATC	(885)
R86	76	1	GCCTTTATGAGGGCAAGCTATTG	(897)
R87	76	1	GCTTGGGGTCTGAGAGGTCAAT	(814)
R88	76	1	CCAATGATCTGCTCTTCAACCAC	(722)
R89	77	1	CCACCGTGGTCTCGATAGTCTC	(121)
R90	78	1	CTGCTTCTGTTCCCACTTCTTATTACC	(618)
R91	80	1	TTGGCTTCATTCTGGCAAATTC	(844)
R92	81	1	CTTCAACCACTGTTTCATGGTCAAT	(709)
R93	81	1	AATCTCATGCAGTTCCACGATCTC	(78)
R94	82	1	CTTCAACCACTGTTTCATGGTCAA	(709)
R95	83	1	GGGCTTTTCTCCAGTATGAACCA	(1047)
R96	83	2	ACCACATGGTGACCGAGAACTC	(664)
R97	84	1	GTGCAGATGCTTTCTCATAGCAGA	(945)
R98	84	1	TGTGCAGATGCTTTCTCATAGCAG	(946)
R99	85	1	CATTCTGCACAGACGTGGACTC	(980)
R100	85	ī	TCTGAGAGGTCAATGCCAGGTATC	(806)
				, /

#### Shortened zinc finger of BB.6S

1. Nucleic acid sequence of the "shortened" zinc finger for BB.6S (the nucleotides that are crossed out are absent, only the underlined nucleotides code for amino acids of the protein in the second band)

```
1 ATGGCCTCGG GCGACACCCT CTACATTGCC ACGGACGGCT CGGAGATGCC
  51 AGCCGAGATC GTGGAACTGC ATGAGATTGA GGTGGAGACC ATCCCGGTGG
 101 AGACTATCGA GACCACGGTG GTGGGCGAGG AGGAGGACGA CGACGAAGAC
 151 GACGAGGATG GTGGCGGCGG AGACCACGGT GGCGGGGCG GCCACGGGCA
 201 CGCTGGCCAC CACCATCACC ACCACCACCA CCACCACCCG CCCATGATCG
251 CGCTGCCAC CACCATCACC ACCACCAC CCACCACCG CCCATGATCG
251 CGCTGCAGCC GCTGGTCACC GACGACCCGA CCCAAGTGCA CCACCACCAC
301 GAGGTGATTC TGGTGCAGAC GCGCGAGGAG GTAGTGGGTG GCGACGACTC
351 GGACGGCTG CGCGCCGAGG ACGGGTTCGA GGACCAGATC CTCATTCCGG
401 TACCCGCGCC GGCCGGCGGA GACGACGACT ACATCGAGCA GACGCTGGTC
 451 ACCGTGGCGG CGGCCGGCAA GAGCGGTGGC GGGTCTTCGT CGGGCGGCGG
 501 CCGCGTTAAG AAGGGCGGCG GCAAGAAGAG CGGCAAGAAG AGTTACCTGG
 551 GCAGCGGGC CGGCGCGGCG GGCGGTGGCG GCGCCGACCC GGGTAATAAG
 601 AAGTGGGAAC AGAAGCAGGT GCAGATCAAG ACCCTGGAGG GCGAGTTCTC
 651 GGTCACCATG TGGTCTTCAG ATGAAAAAA AGATATTGAC CATGAAACAG
 701 TGGTTGAAGA GCAGATCATT GGGGAGAACT CACCTCCTGA TTATTCTGAA
 751 TATATGACAG GCAAGAAACT CCCTCCTGGA GGGATACCTG GCATTGACCT
 801 CTCAGACCCC AAGCAACTGG CAGAATTTGC CAGAATGAAG CCAAGAAAAA
 851 TTAAAGAAGA TGATGCTCCA AGAACAATAG CTTGCCCTCA TAAA<del>GCCTCC</del>
 901 ACAAAGAtGT TCAGGGATAA CTCTGCTATG AGAAAGCATC TGCACACCCA
 951 CCCTCCACA CTCCACCTCT CTCCACAATC TCCCAAACCC TTCCTTCACA
1001 CCTCAAACCT AAAACCACAC CACCTCCTTC ATACTGGAGA AAAGCCCTTT
1051 CAGTGCACAT TCGAAGGCTG CGGGAAGCGC TTTTCACTGG ACTTCAATTT
1101 GCGCACGCAT GTGCGAATCC ATACCGGAGA CAGGCCCTAT GTGTGCCCCT
1151 TCGACGGTTG TAATAAGAAG TTTGCTCAGT CAACTAACCT GAAATCTCAC
1201 ATCTTAACAC ACGCTAAAGC CAAAAACAAC CAGTGA
```

2. Protein sequence of the "shortened" zinc finger for BB.6S (the nucleotides that are crossed out are absent, only the underlined nucleotides are present in the second band)

```
CPHK G C T K M F R D N S A M R K HL H T H G P R V H V G A E C G K A F V ES S K L K R H Q L V H T G E K P F Q CTFEGCGKRFSLDFNLRTHVRIHTGDRPYV CPFDGCNKKFAQSTNLKSHILTH
```

#### Antisense oligonucleotides used in accordance with the present invention

(The positions given relate to the coding region and not to the position numbering of the sequence listing.) >gi|1835104|emb|Z85393.1|HSZ85393 H.sapiens Ig lambda light chain variable region gene(34-30SWIIE197) rearranged; Ig-Light-Lambda; VLambda Identities = 14/14 (100%) Query: 74 accggagcccgctg 88 1111111111111 Sbjct: 241 accggagcccgctg 228 V region 1..348 >gi|14589948|ref|NM 000937.2| Homo sapiens polymerase (RNA) II (DNA directed) polypeptide A, 220kDa (POLR2A), mRNA Identities = 17/18 (94%) Query: 77 ggagcccgctgtgggaga 94 1111111 111111111 Sbjct: 5099 ggagcccggtgtgggaga 5082 CDS 387..6299 >gi|18596386|ref|XM 093190.1| Homo sapiens similar to T-cell activation protein (LOC170226), mRNA Identities = 20/21 (95%) Query: 76 cggagcccgctgtgggagatg 96 11111 111111111111 Sbjct: 156 cggagcacgctgtgggagatg 176 CDS 1..1314 >gi|7934571|gb|AF220152.2|AF220152 Homo sapiens TACC2 mRNA, complete cds Identities = 14/14 (100%) Query: 78 gagcccgctgtggg 91 Sbjct: 977 gagcccgctgtggg 990 293..3013 CDS >gi|6165844|gb|AF100772.1|AF100772 Homo sapiens tenascin-M1 (TNM1) mRNA, Identities = 16/16 (100%) Query: 79 agcccgctgtgggaga 94 111111111111111 Sbjct: 4377 agcccgctgtgggaga 4362 CDS 65..8242 function="putative receptor molecule" >gi|24496766|ref|NM 004712.3| Homo sapiens hepatocyte growth factor-regulated substrate (HGS), mRNA tyrosine kinase Identities = 15/15 (100%) Query: 79 agcccgctgtgggag 93

11111111111111

Sbjct: 2088 agcccgctgtgggag 2074

```
CDS
                 78..2411
/note="human growth factor-regulated tyrosine kinase
>gi|4324953|gb|AF114821.1|HSSMO3 Homo sapiens smoothened (SMO) gene, exons 3
through 12 and complete
Identities = 14/14 (100%)
Query: 79
            agcccgctgtggga 93
            1111111111111
Sbjct: 6838 agcccgctgtggga 6825
CDS
            6833..6967
>gi|22064913|ref|XM_090047.5|
                                Homo sapiens LOC160156 (LOC160156), mRNA
Identities = 14/14 (100%)
Query: 80
            gcccgctgtgggag 93
            Sbjct: 1427 gcccgctgtgggag 1440
                 709..1980
CDS
>gi|517388|emb|Z31606.1|HSB2NO3
                                 H.sapiens brain-2/N-Oct 3 gene (promoter
region)
Identities = 15/15 (100%)
Query: 80 gcccgctgtgggaga 94
           11111111111111
Sbjct: 547 gcccgctgtgggaga 561
promoter
                1..670
>gi|23273501|gb|BC035782.1|
                              Homo sapiens, Similar to tyrosine kinase, non-
receptor, 1, clone
Identities = 15/15 (100%)
Query: 83
            cgctgtgggagatgt 97
            111111111111111
Sbjct: 1032 cgctgtgggagatgt 1046
 CDS
                  98..2083
>gi|7662017|ref|NM 015153.1|
                               Homo sapiens PHD finger protein 3 (PHF3), mRNA
Identities = 14/14 (100%)
Query: 84
            gctgtgggagatgt 97
            1111111111111
Sbjct: 2228 gctgtgggagatgt 2241
 CDS
                  28..6147
>gi|20561197|ref|XM 062302.3|
                                Homo sapiens similar to RING finger protein 18
(Testis-specific ring-finger protein) (LOC120826), mRNA
Score = 28.2 bits (14), Expect =
Identities = 14/14 (100%)
Query: 84 gctgtgggagatgt 97
           1111111111111
Sbjct: 489 gctgtgggagatgt 502
               190..2244
/product="similar to RING finger protein 18(Testis-specific ring-finger rotein)"
>gi|4885330|ref|NM_005305.1|
                              Homo sapiens G protein-coupled receptor 42
(GPR42), mRNA
Identities = 14/14 (100%)
Query: 84 gctgtgggagatgt 97
           11111111111111
Sbjct: 486 gctgtgggagatgt 473
                  1..1041
>gi|17473297|ref|XM 061928.1| Homo sapiens LOC120226 (LOC120226), mRNA
```

```
Identities = 14/14 (100%)
Query: 84 gctgtgggagatgt 97
           Sbjct: 453 gctgtgggagatgt 466
CDS
                 1..492
>gi|21359977|ref|NM 024947.2|
                               Homo sapiens polyhomeotic like 3 (Drosophila)
(PHC3), mRNA
Identities = 14/14 (100%)
Query: 85 ctgtgggagatgta 97
           11111111111111
Sbjct: 404 ctgtgggagatgta 391
   CDS
                   65..2959
/note="early development regulator 3; polyhomeotic 3"
>gi|19718811|qb|BC007249.2|
                             Homo sapiens, pelota homolog (Drosophila), clone
Identities = 13/13 (100%)
Query: 97
           taacggtgcctgc 109
            Sbjct: 1303 taacggtgcctgc 1291
  CDS
                   274..1431
/product="pelota homolog (Drosophila)"
>gi|19924298|ref|NM 004958.2|
                               Homo sapiens FK506 binding protein 12-rapamycin
associated protein 1(FRAP1), mRNA
Identities = 13/13 (100%)
Query: 98
           acggtgcctgccg 111
            Sbjct: 5720 acggtgcctgccg 5732
                    80..7729
/note="FK506 binding protein 12-rapamycin associated protein 2; rapamycin target
protein; FKBP12-rapamycin complex-associated protein 1; FKBP-rapamycin
associated
>gi|22049727|ref|XM 040948.8|
                               Homo sapiens dynein, cytoplasmic, heavy
polypeptide 1 (DNCH1), mRNA
Identities = 13/13 (100%)
Query: 99
           acggtgcctgccg 111
            11111111111
Sbjct: 6291 acggtgcctgccg 6303
 CDS
                  6..6830
/product="similar to cytoplasmic dynein heavy chain"
>gi|459833|gb|L25085.1|HUMSEC61B
                                  Human Sec61-complex beta-subunit mRNA,
Identities = 14/14 (100%)
Query: 100 cggtgcctgccgag 113
           11111111111111
Sbjct: 220 cggtgcctgccgag 207
  CDS
                   64..354
/function="protein translocation across the er-membrane"
>gi|21704280|ref|NM 020433.2|
                               Homo sapiens junctophilin 2 (JPH2), mRNA
Identities = 17/18 (94\%)
```

```
Query: 100 cggtgcctgccgagcctc 117
            1111111111 111111
Sbjct: 2526 cggtgcctgcagagcctc 2509
                  874..2964
  CDS
mediate cross talk between cell surface and intracellular ion channels.
>gi|12804622|gb|BC001734.1|BC001734
                                      Homo sapiens, protein translocation
complex beta, clone MGC:1255
Identities = 14/14 (100%)
Query: 100 cggtgcctgccgag 113
           111111111111
Sbjct: 233 cggtgcctgccgag 220
  CDS
                  77..367
>gi|22053428|ref|XM_038146.5|
                                Homo sapiens interferon, gamma-inducible protein
30 (IFI30), mRNA
Identities = 16/17 (94%)
Query: 100 cggtgcctgccgagcct 116
           11111 1111111111
Sbjct: 289 cggtggctgccgagcct 305
  CDS
                  74..826
/product="similar to Gamma-interferon inducible lysosomal thiol reductase
precursor (Gamma-interferon-inducible protein IP-30)"
>gi|7657145|ref|NM 014365.1|
                               Homo sapiens protein kinase H11 (H11), mRNA
Identities = 13/13 (100%)
Query: 101 ggtgcctgccgag 113
           11111111111111
Sbjct: 763 ggtgcctgccgag 775
 CDS
                 524..1114
/note="contains hsp20/crystallin family domain; estradiol-induced; small stress
protein-like protein HSP22"
>gi|21264316|ref|NM 014599.3|
                                Homo sapiens melanoma antigen, family D, 2
(MAGED2), mRNA
Identities = 17/18 (94%)
Query: 101 ggtgcctgccgagcctct 118
           111111
Sbjct: 332 ggtgcctcccgagcctct 315
  CDS
                  97..1917
/note="hepatocellular carcinoma associated protein; breast cancer associated
gene 1"
                                        Homo sapiens mRNA for hypothetical
>gi|11967745|emb|AJ293618.1|HSA293618
protein 11B6, clone XP11B6
Identities = 17/18 (94%)
Query: 101 ggtgcctgccgagcctct 118
           111111 111111111
Sbjct: 248 ggtgcctcccgagcctct 231
                 13..1833
>gi|20514781|ref|NM 139015.1|
                                Homo sapiens SPPL3 (SPPL3), mRNA
Identities = 14/14 (100\%)
Query: 104 gcctgccgagcctc 117
           11111111111111
Sbjct: 569 gcctgccgagcctc 582
    CDS
                    1..1905
/product="hypothetical protein XP 068909"
```

```
>qi|23094385|emb|AJ345030.1|HSA345030
                                        Homo sapiens mRNA for presenilin-like
protein 4 (PSL4 gene)
Identities = 14/14 (100%)
Query: 104 gcctgccgagcctc 117
           111111111111
Sbjct: 598 gcctgccgagcctc 611
    CDS
                    54..1208
/function="putative intramembrane protease"
>gi|4502840|ref|NM_003654.1|
                               Homo sapiens carbohydrate (keratan sulfate Gal-6)
sulfotransferase 1 (CHST1), mRNA
Identities = 16/17 (94%)
Query: 105 cctgccgagcctctacg 121
           1111 111111111
Sbjct: 735 cctgcggagcctctacg 751
                   367..1602
/note="carbohydrate (chondroitin 6/keratan) sulfotransferase 1"
/protein id="NP 003645.1"
>gi|17485022|ref|XM 066361.1|
                                Homo sapiens similar to glutathione S-
transferase theta 1 (LOC129041), mRNA
Identities = 13/13 (100%)
Query: 105 cctgccgagcctc 117
           Sbjct: 580 cctgccgagcctc 568
   CDS
                   1..633
/product="similar to glutathione S-transferase theta 1"
>gi|22134527|gb|AF331523.1|
                              Homo sapiens chromosome 12 putative anion
transporter mRNA, partial
Identities = 13/13 (100%)
Query: 106 ctgccgagcctct 118
           11111111111
Sbjct: 807 ctgccgagcctct 819
                 <312..2003
note="member of the SLC26 family;
>gi|14784297|ref|XM 031102.1|
                                Homo sapiens Breakpoint cluster region protein,
uterine leiomyoma, 2 (BCRP2), mRNA
Identities = 13/13 (100%)
Query: 108 gccgagcctctac 120
            111111111111
Sbjct: 1784 gccgagcctctac 1796
                    55..2883
/product="similar to KIAA1824 protein"
>gi|20535791|ref|XM_119632.1|
                               Homo sapiens LOC205318 (LOC205318), mRNA
Identities = 14/14 (100%)
Query: 123 tcggctctagcacc 136
           11111111111111
Sbjct: 491 tcggctctagcacc 504
 CDS
                  1..522
/product="hypothetical protein XP_119632"
```

```
>gi|4557448|ref|NM 001271.1|
                               Homo sapiens chromodomain helicase DNA binding
protein 2 (CHD2), mRNA
Identities = 14/14 (100%)
Query: 125 ggctctagcacctt 138
            111111111111111
Sbjct: 2791 ggctctagcacctt 2778
                708..5927
/product="chromodomain helicase DNA binding protein 2"
>gi|21264574|ref|NM 139135.1|
                                Homo sapiens SWI/SNF related, matrix associated,
actin dependent regulator of chromatin, subfamily f, member 1 (SMARCF1),
transcript variant 2, mRNA
Identities = 14/14 (100%)
           tctagcaccttgac 141
Query: 128
            Sbjct: 5474 tctagcaccttgac 5487
CDS
                 371..6577
/note="brain protein 120; chromosome 1 open reading frame 4; SWI/SNF complex
protein p270; BRG1-associated factor 250a; chromatin remodeling factor p250;
OSAl nuclear protein"
>gi|18129612|gb|AF333072.2|AF333072
                                      Homo sapiens HERV-K18.1 5' long terminal
repeat, complete sequence; gag protein (gag) gene, gag-K18.1 allele, complete
cds; pol protein (pol) gene, pol-K18.1 allele, complete cds; env protein (env)
gene, env-K18.1 allele, complete cds; and 3' long terminal repeat, complete
sequence
Identities = 17/18 (94%)
Query: 143 tactctaactccacctct 160
            111111111111 11111
Sbjct: 1196 tactctaactcccctct 1179
   CDS
                   1113..1874
>qi|4503778|ref|NM_002029.1|
                              Homo sapiens formyl peptide receptor 1 (FPR1),
 Identities = 14/14 (100%)
Query: 148 taactccacctctg 161
           11111111111
Sbjct: 1102 taactccacctctg 1089
                 62..1114
/product="formyl peptide receptor 1"
/product="protein tyrosine kinase-7"
>gi|21655145|qb|AY082886.1|
                             Homo sapiens eukaryotic translation initiation
factor 4GI (EIF4GI)
Identities = 14/14 (100%)
Query: 150 actccacctctggt 163
           1111111111111
Sbjct: 1400 actccacctctggt 1387
                275..5077
                                Homo sapiens KIAA0632 protein (KIAA0632), mRNA
>gi|13357213|ref|NM 015545.1|
Identities = 17/18 (94\%)
Query: 152 tccacctctggtagggcc 169
           11111111111 1111
Sbjct: 931 tccacctctggttgggcc 914
   CDS
                    282..1790
/product="KIAA0632 protein"
```

```
>qi|18182862|qb|BC015632.1|
                             Homo sapiens, similar to hypothetical protein
XP 166541, clone
Identities = 18/19 (94%)
Query: 153 ccacctctggtagggccac 171
           111111 1111111111
Sbjct: 2098 ccacctcgggtagggccac 2080
CDS
               52..2517
>gi|24432033|ref|NM 004959.3|
                               Homo sapiens nuclear receptor subfamily 5, group
A, member 1 (NR5A1),
Identities = 17/18 (94%)
Query: 159 ctggtagggccacctctg 176
           Sbjct: 2316 ctgggagggccacctctg 2299
CDS
               52..13776
>qi|17432414|qb|AF447167.1|F447157S05
                                        Homo sapiens protein tyrosine kinase-7
(PTK7) gene, exons 11, 12, and 13
Identities = 15/15 (100%)
Query: 161 ggtagggccacctct 175
           11111111111111
Sbjct: 553 ggtagggccacctct 567
CDS AF447164.1: 548..683
>gi|19882212|ref|NM 032119.1|
                               Homo sapiens very large G protein-coupled
receptor 1 (VLGR1), mRNA
Identities = 17/18 (94%)
Query: 170
            acctctgatagctctggt 187
             1111111111
Sbjct: 11300 acctctgataactctggt 11283
CDS
                97..19020
>gi|22044294|ref|XM 174449.1|
                               Homo sapiens LOC255281 (LOC255281), mRNA
Identities = 16/16 (100%)
Query: 180 cctctgatagctctgg 196
          1111111111111111
Sbjct: 460 cctctgatagctctgg 445
CDS
                1..474
>qi|1841544|qb|U89337.1|HSMHC3W36A
                                    Homo sapiens HLA class III region
containing NG7, cAMP response element binding protein-related protein (CREB-RP),
and tenascin X genes,
Identities = 17/18 (94%)
Query: 180
            gctctggtgccaccaccc 197
            11111111111 11111
Sbjct: 54778 gctctggtgcctccaccc 54795
 CDS
                 54566..54883
>gi|6164703|qb|AF167572.1|AF167572
                                    Homo sapiens protein methyltransferase
(JBP1) mRNA, complete cds
Identities = 14/14 (100%)
```

```
Query: 181 ctctggtgccacca 194
           Sbjct: 574 ctctggtgccacca 561
  CDS
                  92..2005
/function="methylates histones H2A and H4 and myelin basic
/product="protein methyltransferase"
gi|2323409|gb|AF015913.1|AF015913
                                    Homo sapiens SKB1Hs mRNA, complete cds
Identities = 14/14 (100%)
Query: 181 ctctggtgccacca 194
           11111111111
Sbjct: 483 ctctggtgccacca 470
 CDS
                 1..1914
/note="homolog of fission yeast Skb1"
>gi|18490998|ref|NM 003882.2|
                                Homo sapiens WNT1 inducible signaling pathway
protein 1 (WISP1), transcript variant 1, mRNA
Identities = 18/19 (94%)
Query: 181 ctctggtgccaccacccgc 199
           1111111111 1111111
Sbjct: 569 ctctggtgccccacccgc 587
  CDS
                  77..1180
>gi|14245731|dbj|AB051853.1|
                               Homo sapiens ARHGAP9 gene for rho-GTPase
activating protein, complete
Identities = 15/15 (100%)
Query: 181 ctctggtgccaccac 195
            111111111111111
Sbjct: 2013 ctctggtgccaccac 2027
  CDS
                  140..2335
/function="regulating adhesion of hematopoietic cells to
extracellular matrix"
>gi|16876446|ref|NM 054028.1|
                                Homo sapiens acyl-malonyl condensing enzyme
(AMAC), mRNA
Identities = 14/14 (100%)
Query: 181 ctctggtgccacca 194
           11111111111111
Sbjct: 220 ctctggtgccacca 233
CDS
                 122..1138
>gi|18594399|ref|XM 092954.1|
                                Homo sapiens similar to acidic protein rich in
leucines (LOC164697), mRNA
Identities = 14/14 (100%)
Query: 182 tctggtgccaccac 195
           1111111111111
Sbjct: 721 tctggtgccaccac 734
                1..2454
/product="similar to acidic protein rich in leucines"
>gi|20553841|ref|XM 031689.6|
                                Homo sapiens MAX dimerization protein 5 (MGA),
Identities = 14/14 (100%)
```

```
Query: 182 tctggtgccaccac 195
           111111111111
Sbjct: 463 tctggtgccaccac 476
                82..4773
/product="similar to MAX-interacting protein"
>gi|18575418|ref|XM 100074.1|
                               Homo sapiens LOC159480 (LOC159480), mRNA
Identities = 14/14 (100%)
Query: 183 ctggtgccaccacc 196
           11111111111111
Sbjct: 475 ctggtgccaccacc 488
                  1..1425
/product="hypothetical protein XP 100074"
>gi|6912511|ref|NM 012330.1|
                              Homo sapiens monocytic leukemia zinc finger
protein-related factor (MORF), mRNA
Identities = 14/14 (100%)
Query: 183 ctggtgccaccacc 196
            3 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Sbjct: 1535 ctggtgccaccacc 1548
CDS
                316..6537
/note="alternatively spliced; histone acetyltransferase"
/product="monocytic leukemia zinc finger protein-related factor"
>qi|18032211|qb|AF217500.1|AF217500
                                     Homo sapiens histone acetyltransferase
MOZ2 (MOZ2) mRNA, complete cds
Identities = 14/14 (100%)
Query: 183 ctggtgccaccacc 196
            Sbjct: 1708 ctggtgccaccacc 1721
                   489..6707
   CDS
/note="MYST family member; similar to MOZ"
/product="histone acetyltransferase MOZ2"
>gi|24497588|ref|NM 139058.1|
                               Homo sapiens aristaless related homeobox (ARX),
mRNA
Identities = 15/15 (100%)
Query: 185 ggtgccaccaccgc 199
           11111111111111
Sbjct: 663 ggtgccaccacccgc 649
                 1..1689
 CDS
>gi|4758787|ref|NM 004551.1|
                              Homo sapiens NADH dehydrogenase (ubiquinone) Fe-S
protein 3, 30kDa (NADH-coenzyme Q reductase) (NDUFS3), mRNA
Identities = 14/14 (100%)
Query: 187 tgccaccacccgct 200
           1111111111111
Sbjct: 675 tgccaccaccgct 662
   CDS
                  13..807
>product="bA171A24.1 (RAR-related orphan receptor B)" gene="RORB"/
Identities = 27/29 (93%)
Query: 189
             ccaccacccgctcctcctcctgctgctgc 217
              Sbjct: 140523 ccaccaccaactcctcctcctgctgctgc 140551
```

```
CDS: 140352..>140970
>gi|23510326|ref|NM_015692.1|
                              Homo sapiens alpha-2 macroglobulin family
protein VIP (VIP), mRNA
Identities = 21/22 (95%)
Query:195 cccgctcctcctcctgctgctg 216
         111111111111111111111
Sbjct: 47 cccgctcctgctcctgctgctg 68
                   18..5675
   CDS
/note="contains Kazal-type serine protease inhibitor domain"
>gi|21536391|ref|NM 007037.2|
                             Homo sapiens a disintegrin-like and
metalloprotease (reprolysin type) with thrombospondin type 1 motif, 8 (ADAMTS8),
Identities = 29/32 (90%)
Query: 196 ccgctcctcctcctgctgctgcttctgctgct 227
          Sbjct: 741 ccgctcctgctgctgctgctgctgctgctgct 772
 CDS
                 708..3380
                             Homo sapiens cholinergic receptor, nicotinic,
>gi|7382453|ref|NM 005199.3|
gamma polypeptide (CHRNG), mRNA
Identities = 22/23 (95%)
Query: 196 ccgctcctcctcctgctgctgct 218
         Sbjct: 19 ccgctgctcctcctgctgctgct 41
                1..1563
CDS
>gi|17738306|ref|NM 006650.2|
                              Homo sapiens complexin 2 (CPLX2), mRNA
Identities = 18/18 (100\%)
Query: 197 cgctcctcctcctgctgc 214
          11111111111111111
Sbjct: 488 cgctcctcctcctgctgc 471
  CDS
                  346..750
>qi|21362089|ref|NM 032667.2|
                             Homo sapiens Bernardinelli-Seip congenital
lipodystrophy 2 (seipin) (BSCL2), mRNA
Identities = 24/26 (92%)
Query: 198
          gctcctcctcctgctgctgcttctgc 224
           Sbjct: 1797 gctcctgctcctgcttctgcttctgc 1822
CDS
               507..1901
>gi|21703365|ref|NM 022766.3|
                              Homo sapiens ceramide kinase (CERK), mRNA
Identities = 21/22 (95%)
Query: 198
          gctcctcctcctgctgctgctt 219
           11111111111 1111111111
Sbjct: 1216 gctcctcctccagctgctgctt 1195
Identities = 14/14 (100%)
Query: 204
          cctcctgctgctgc 217
           Sbjct: 1586 cctcctgctgctgc 1599
                 124..1737
/note="lipid kinase LK4"
```

```
>gi|10198655|ref|NM 020547.1|
                              Homo sapiens anti-Mullerian hormone receptor,
type II (AMHR2), mRNA
Identities = 20/20 (100%)
Query: 199 ctcctcctcctgctgctgct 218
          111111111111111111111
Sbjct: 544 ctcctcctcctgctgctgct 563
 CDS
                79..1800
>gi|7662013|ref|NM 014745.1|
                             Homo sapiens KIAA0233 gene product (KIAA0233),
mRNA
Identities = 30/32 (93%)
Query: 199 ctcctcctcctgctgctgcttctgctgctcct 230
          Sbjct: 803 ctcctcctcctgctgctgctgctgatgctcct 772
CDS
               3..6110
>qi|4504382|ref|NM 001528.1|
                             Homo sapiens HGF activator (HGFAC), mRNA
Identities = 27/28(96\%)
Query: 199 ctcctcctcctgctgctgcttctgctgc 226
         Sbjct: 64 ctcctcctcctgctgctgctgctgc 91
   CDS
                   4..1971
>gi|23111046|ref|NM 152227.1|
                              Homo sapiens sorting nexin 5 (SNX5), transcript
variant 1, mRNA
Identities = 18/18 (100%)
Query: 200 tcctcctcctgctgctgc 217
          111111111111111111
Sbjct: 221 tcctcctcctgctgctgc 204
 CDS
                181..1395
>gi|22507392|ref|NM 022574.2|
                              Homo sapiens PERQ amino acid rich, with GYF
domain 1 (PERQ1), mRNA
Identities = 28/31 (90%)
Query: 200 tcctcctcctgctgctgcttctgctgctcct 230
           Sbjct: 1856 tectectectgeegeegettetgeteeteet 1826
CDS
               236..2689
>gi|10834965|ref|NM 000404.1|
                              Homo sapiens galactosidase, beta 1 (GLB1),
transcript variant 179423, mRNA
Identities = 26/28 (92%)
Query: 200 tcctcctcctgctgctgcttctgctgct 227
          Sbjct: 83 tcctccttctgctgctggttctgctgct 110
sig peptide
               61..129
                 61..2094
 CDS
>gi|1814019|qb|U84408.1|HSU84408
                                 Human IL-1 receptor related protein MyD88
mRNA, complete cds
Identities = 20/20 (100%)
```

```
Query: 201 cctcctcctgctgctgcttc 220
          1111111111111111111111
Sbjct: 433 cctcctcctgctgctgcttc 414
 CDS
                61..951
>gi|15929589|gb|BC015219.1|BC015219
                                   Homo sapiens, HBV associated factor, clone
 Identities = 25/27 (92%)
Query: 201 cctcctcctgctgctgcttctgctgct 227
           Sbjct: 1211 cctcctgctgctgctgcttccgctgct 1185
  CDS
                434..1966
>qi|4885332|ref|NM 005306.1|
                           Homo sapiens G protein-coupled receptor 43
(GPR43), mRNA
Identities = 22/23 (95%)
Query: 201 cctcctcctqctqctqcttctqc 223
          Sbjct: 165 cctcctcctgctgctgctgc 187
               1..993
/note="7tm_1; Region: 7 transmembrane receptor (rhodopsin
family)"
>gi|19111149|ref|NM 133265.1|
                             Homo sapiens angiomotin (AMOT), mRNA
Identities = 24/26 (92\%)
Query: 202
            ctcctcctgctgcttctgctgct 227
           Sbjct: 2448 ctccttctgctgctgctgctgctgct 2473
 CDS
                797..2824
>gi|24308357|ref|NM 033253.1|
                             Homo sapiens 5'-nucleotidase, cytosolic IB
(NT5C1B), mRNA
Identities = 24/26 (92%)
Query: 203 tcctcctgctgctgcttctgctgctc 228
          Sbjct: 678 tcctcccgctgctgctgctgctc 653
 CDS
                482..1690
/note="5' nucleotidase; autoimmune infertility-related protein; 5?-nucleotidase,
cytosolic IB; cytosolic 5'-nucleotidase IB; 5#-nucleotidase, cytosolic IB"
>gi|11545760|ref|NM 022055.1|
                             Homo sapiens potassium channel, subfamily K,
member 12 (KCNK12),
Identities = 22/23 (95%)
Query: 204 cctcctgctgctgcttctgctgc 226
          1111111111111
Sbjct: 59
          cctcctgctgctgctgctgctgc 81
                1..1293
/note="tandem pore domain potassium channel THIK-2"
>gi|5729946|ref|NM 006681.1|
                            Homo sapiens neuromedin U (NMU), mRNA
Identities = 23/24 (95%)
Query: 205 ctcctgctgctgcttctgctgctc 228
          Sbjct: 169 ctcctgctgctgctgctgctc 192
 CDS
               106..630
               106..207
sig peptide
```

```
>gi|4128016|emb|AJ011701.1|HSA011701
                                     Homo sapiens TRHR gene promoter and exons
1-2, partial
Identities = 20/20 (100%)
Query: 205 ctcctgctgctgcttctgct 224
           111111111111111111111
Sbjct: 1732 ctcctqctqctqcttctqct 1751
                1691..1946
 exon
>qi|17985370|qb|AF284094.1|AF284094
                                    Homo sapiens I3 binding protein (BRI3BP)
mRNA, complete cds
Identities = 22/23 (95%)
Query: 205 ctcctgctgctgcttctgctgct 227
          Sbjct: 130 ctcctgctgctgctgctgctgct 152
                88..843
 CDS
>qi|15625294|qb|AF286190.1|AF286190
                                    Homo sapiens VPS10 domain protein mRNA,
 Identities = 22/23 (95%)
Query: 205 ctcctgctgctgcttctgctgct 227
         Sbjct: 5 ctcctgctgctgctgctgctgct 27
 CDS
                 <1..>1251
>gi|28761|emb|X13629.1|HSAPOA4
                               Human intestinal mRNA for apolipoprotein A-IV
Identities = 22/23 (95%)
Query: 205 ctcctgctgctgcttctgctgct 228
           11111111111
Sbjct: 1203 ctcctgctgctgctcctgctgct 1181
 CDS
                 46..1236
>gi|17458351|ref|XM 047011.2|
                              Homo sapiens protein O-fucosyltransferase 1
(POFUT1), mRNA
Identities = 23/24 (95%)
Query: 206 tcctgctgctgcttctgctgctcc 229
          Sbjct: 90
          teetgetgetgettetgeegetee 113.
 CDS
                50..1216
>gi|15812213|ref|NM 033431.1|
                              Homo sapiens phosphodiesterase 5A, cGMP-specific
(PDE5A), transcript variant 4, mRNA
Identities = 20/20 (100%)
Query: 208 ctgctgctgcttctgctgct 227
          11111111111111111111
Sbjct: 227 ctgctgctgcttctgctgct 208
                 156..2753
>gi|3252778|dbj|D89094.1|
                          Homo sapiens mRNA for 3',5'-cyclic GMP
phosphodiesterase, complete
Identities = 20/20 (100%)
Query: 208 ctgctgctgcttctgctgct 227
          Sbjct: 391 ctgctgctgcttctgctgct 372
                 320..2947
 CDS
```

```
>qi|11496985|ref|NM 012072.2| Homo sapiens complement component 1, q
subcomponent, receptor 1 (C1QR1), mRNA
Identities = 22/23 (95%)
Query: 208 ctgctgctgcttctgctgctcct 230
          Sbjct: 170 ctgctgctgctgctgctcct 192
 CDS
                149..2107
>gi|4809281|ref|NM 001718.2|
                            Homo sapiens bone morphogenetic protein 6 (BMP6),
 Identities = 22/2\overline{3} (95%)
Query: 208 ctgctgctgcttctgctgctcct 230
          Sbjct: 533 ctgctgctgctgctgctcct 511
 CDS
                180..1721
/note="Vg-related sequence; transforming growth factor-beta"
>qi|14777259|ref|XM 027568.1|
                             Homo sapiens similar to interleukin 9 receptor
(LOC146316), mRNA
Identities = 22/23 (95%)
Query: 208 ctgctgctgcttctgctgctcct 230
           11111111111
Sbjct: 1294 ctgctgctgctgctgctcct 1272
  CDS
                 660..1547
>gi|2626738|dbj|AB005060.1|
                            Homo sapiens mRNA for NTAK, complete cds
Identities = 22/23 (95%)
Query: 208 ctgctgctgcttctgctgctcct 230
          11111111111
Sbjct: 341 ctgctgctgctgctgctcct 319
CDS
               226..2778
>gi|4507106|ref|NM 003086.1|
                            Homo sapiens small nuclear RNA activating
complex, polypeptide 4,90kDa (SNAPC4), mRNA
Identities = 21/22 (95%)
Query: 208 ctgctgctgcttctgctgctcc 229
           1111111111
Sbjct: 1994 ctgctgctgctgctgctgctcc 1973
Identities = 27/29 (93%), Gaps = 1/29 (3%)
Query: 200 tcctcctc-ctgctgctgcttctgctgct 227
           Sbjct: 2009 tcctcctcgctgctgctgctgctgctgct 1981
               376..4785
>gi|21237798|ref|NM 139205.1|
                             Homo sapiens histone deacetylase 5 (HDAC5),
transcript variant 2,
Identities = 21/22 (95%)
Query: 208 ctgctgctgcttctgctgctcc 229
           Sbjct: 1888 ctgctgctgcttctgcttctcc 1867
Identities = 15/15 (100%)
```

```
Query: 205 ctcctgctgctgctt 219
          1111111111111
Sbjct: 670 ctcctgctgctgctt 656
 CDS
                 305..3418
/note="isoform 2 is encoded by transcript variant 2; antigen NY-CO-9"
>gi|2564750|gb|AF029308.1|HTCRBCHR9
                                    Homo sapiens chromosome 9 duplication of
the T cell receptor beta locus and trypsinogen gene families
Identities = 19/19 (100%)
Query: 209
            tgctgcttctgctgct 227
            111111111111111111111
Sbjct: 11391 tgctgctgcttctgctgct 11409
V segment
               join(11390..11420
>qi|1296750|emb|Z49234.1|HSTCRB2X2
                                   H.sapiens gene for T-cell receptor TCRBV2.2
Identities = 19/19 (100%)
Query: 209 tgctgctgcttctgctgct 227
          Sbjct: 976 tgctgctgcttctgctgct 994
  CDS
                  975..>1141
>gi|13027808|ref|NM 022718.1|
                               Homo sapiens matrix metalloproteinase 25
(MMP25), transcript variant 2, mRNA
Identities = 18/18 (100%)
Query: 210 gctgctgcttctgctgct 227
          11111111111111111
Sbjct: 264 gctgctgcttctgctgct 281
CDS
               238..1926
>gi|12803104|qb|BC002356.1|BC002356
                                    Homo sapiens, nucleobindin 1, clone
 Identities = 21/22 (95%)
Query: 213 gctgcttctgctgctcct 230
          11111 1111111111
Sbjct: 68 gctgctgctgctcct 85
Query: 208 ctgctgctgcttctgctgctcc 229
           Sbjct: 1235 ctgctgctgcttccgctgctcc 1214
CDS
               27..1412
>gi|24496766|ref|NM 004712.3|
                              Homo sapiens hepatocyte growth factor-regulated
tyrosine kinase substrate (HGS), mRNA
Identities = 15/15 (100%)
Query: 215 tgcttctgctgctcc 229
           Sbjct: 1732 tgcttctgctgctcc 1718
                 78..2411
 CDS
>gi|20544115|ref|XM 059933.5|
                             Homo sapiens similar to putative
lysophosphatidic acid acyltransferase (LOC137964), mRNA
Identities = 15/15 (100%)
Query: 216 gcttctgctgctcct 230
           Sbjct: 2233 gcttctgctgctcct 2219
```

```
Homo sapiens histone H1 (HIST1H1A) gene, complete
>gi|22770666|gb|AF531299.1|
Identities = 15/15 (100%)
Query: 216 gcttctgctgctcct 230
           11111111111111
Sbjct: 551 gcttctgctgctcct 565
  CDS
                   521..1168
>gi|18390058|gb|AF463518.1|
                              Homo sapiens cell recognition protein CASPR4
(CASPR4) mRNA, complete
Identities = 15/15 (100%)
Query: 216 gcttctgctgctcct 230
            11111111
Sbjct: 1568 gcttctgctgctcct 1582
CDS
                 140..4075
/product="cell recognition protein CASPR4"
>gi|21359973|ref|NM 053276.2|
                                Homo sapiens vitrin (VIT), mRNA
Identities = 19/20 (95%)
Query: 216 cttctgctgctcctaccacc 236
           111111111111 111111
Sbjct: 835 cttctgctgcttctaccacc 854
   CDS
                   222..2303
>gi|23308602|ref|NM 015460.1|
                                Homo sapiens myosin VIIA and Rab interacting
protein (MYRIP), mRNA
Identities = 15/15 (100%)
Query: 220 ctgctgctcctacca 234
           1111111111111
Sbjct: 409 ctgctgctcctacca 423
CDS
                 137..2716
/product="myosin VIIA and Rab interacting protein"
                              Homo sapiens small breast epithelial mucin mRNA,
>gi|15559110|gb|AF414087.1|
complete cds
Identities = 16/16 (100%)
Query: 220 ctgctgctcctaccac 235
           Sbjct: 210 ctgctgctcctaccac 225
  CDS
                  47..319
note="SBEM; secreted protein; similar to Mus musculus
>gi|22779205|dbj|AB083783.1|
                               Homo sapiens slac2-c mRNA for Slp homologue
lacking C2 domains-c, complete cds
Identities = 15/15 (100%)
Query: 220 ctgctgctcctacca 234
           1111111111111111
Sbjct: 273 ctgctgctcctacca 287
  CDS
                   1..2580
>gi|7705267|ref|NM 016255.1|
                               Homo sapiens family with sequence similarity 8,
member A1 (FAM8A1),
Identities = 15/15 (100%)
```

CDS

913..2283

```
Query: 226 ctcctaccaccgccg 240
           11111111111111
Sbjct: 147 ctcctaccaccgccg 161
               56..1297
CDS
/product="Autosomal Highly Conserved Protein"
>qi|14210509|ref|NM 032496.1|
                               Homo sapiens rho-gtpase activating protein
ARHGAP9 (ARHGAP9), mRNA
Identities = 15/15 (100%)
Query: 240 gcctctggtgccacc 254
           111111111111111
Sbjct: 2335 gcctctggtgccacc 2349
CDS
               407..2659
/product="hypothetical protein MGC12959"
>gi|184756|gb|J00221.1|HUMIGCD7
                                 Human Ig germline H-chain G-E-A region B:
alpha-2 A2m(1) allele constant region, 3' end
Identities = 15/15 (100%)
Query: 240 gcctctggtgccacc 254
           111111111111111
Sbjct: 800 gcctctggtgccacc 814
 CDS
                 join(<164..469,684..1004,1227..1621)
/product="immunoglobulin alpha-2 heavy chain"
>gi|21361375|ref|NM_007165.2| Homo sapiens splicing factor 3a, subunit 2,
66kDa (SF3A2), mRNA
Identities = 16/16 (100%)
Query: 248 tgccaccgccccgcc 263
           Sbjct: 876 tgccaccgccccqcc 891
   CDS
                   125..1519
/note="Spliceosome protein SAP-62; splicing factor 3a,
subunit 2, 66kD"
                               Homo sapiens retinoblastoma-like 2 (p130)
>gi|21361291|ref|NM 005611.2|
(RBL2), mRNA
Identities = 15/15 (100%)
Query: 249 gccaccgccccgcc 263
           Sbjct: 93
          gccaccqccccqcc 107
   CDS
                   70..3489
>gi|4505322|ref|NM 003941.1|
                              Homo sapiens Wiskott-Aldrich syndrome-like
(WASL), mRNA
Identities = 15/15 (100%)
Query: 249
           gccaccgccccgcc 263
            11111111111111
Sbjct: 1406 gccaccgccccgcc 1420
                 255..1772
 CDS
>gi|5901937|ref|NM 007021.1|
                               Homo sapiens decidual protein induced by
progesterone (DEPP), mRNA
Identities = 15/15 (100%)
```

```
Query: 249 gccaccgccccgcc 263
           11111111111111
Sbjct: 787 gccaccgccccgcc 801
    CDS
                   219..857
>gi|22045278|ref|XM 001334.5| Homo sapiens POU domain, class 3, transcription
factor 1 (POU3F1),
Identities = 16/16 (100%)
Query: 250 ccaccgccccgccgg 265
            1111111111111
Sbjct: 1326 ccaccgccccgccgg 1341
  CDS
                 36..1391
/product="similar to Octamer-binding transcription factor 6 (OCT-6) (POU-domain
transcription factor SCIP) (TST-1)"
>gi|24234749|ref|NM 012218.2| Homo sapiens interleukin enhancer binding factor
3, 90kDa (ILF3), transcript variant 1, mRNA
Identities = 15/15 (100%)
Query: 250 ccaccgcccccgccg 264
            Sbjct: 2389 ccaccgccccgccg 2375
                267..2951
 CDS
/note="isoform a is encoded by transcript variant 1; double-stranded RNA-binding
protein, 76 kD; M-phase phosphoprotein 4; nuclear factor associated with dsRNA;
nuclear factor of activated T-cells, 90 kD; translational control protein 80"
>gi|190749|gb|M96684.1|HUMPURA
                                H.sapiens Pur (pur-alpha) mRNA, complete cds
Identities = 16/16 (100%)
Query: 250 ccaccgccccgccgg 265
           1:111111111111111
Sbjct: 163 ccaccgcccccgccgg 148
 CDS
                60..1028
/function="sequence-specific single-stranded DNA binding protein"
>gi|4885128|ref|NM 005194.1|
                              Homo sapiens CCAAT/enhancer binding protein
(C/EBP), beta (CEBPB),
Identities = 15/15 (100%)
Query: 250 ccaccgcccccgccg 264
           11111111111111
Sbjct: 484 ccaccgcccccgccg 498
  CDS
                 1..1038
>gi|24850134|ref|NM 170695.1|
                               Homo sapiens TGFB-induced factor (TALE family
homeobox) (TGIF),
Identities = 18/19 (94%)
Query: 253 ccgccccgccggtgcccg 271
           Sbjct: 374 ccgccccgccggagcccg 356
                 304..1509
>gi|20805946|gb|AY083269.1| Homo sapiens transcription factor mammalian MafA
gene, complete cds
Identities = 18/19 (94%)
```

```
Query: 253 ccgccccgccggtgcccg 271
           11111 111111111111
Sbjct: 236 ccgccgccgccggtgcccg 218
  CDS
                  1..1059
>qi|5058992|qb|U66095.1|U66095
                                Homo sapiens cell-line THP-1 GTP cyclohydrolase
I mRNA, complete
Identities = 15/15 (100%)
Query: 257 ccccgccggtgcccg 271
           1111111111111111
Sbjct: 177 ccccgccggtgcccg 163
CDS
                 145..846
>gi|4507750|ref|NM_001071.1|
                               Homo sapiens thymidylate synthetase (TYMS), mRNA
Identities = 15/15 (100%)
Query: 261 gccggtgcccgtgcg 275
           11111111111
Sbjct: 267 gccggtgcccgtgcg 253
                    106..1047
>gi|17511946|gb|BC018929.1|BC018929
                                      Homo sapiens, Similar to T-cell death
associated gene, clone
Identities = 15/15 (100%)
Query: 261 gccggtgcccgtgcg 275
            1111111111111
Sbjct: 1029 gccggtgcccgtgcg 1015
CDS
                 279..1058
>gi|6679302|ref|NM 007350.1|
                              Homo sapiens pleckstrin homology-like domain,
family A, member 1(PHLDA1), mRNA
Identities = 15/15 (100%)
Query: 261 gccggtgcccgtgcg 275
            111111111111
Sbjct: 1333 gccggtgcccgtgcg 1319
CDS
                 160..1362
>gi|23097243|ref|NM 152891.1|
                                Homo sapiens serine protease EOS (EOS), mRNA
Identities = 19/20 (95\%)
Query: 263 cggtgcccgtgcgaccggtg 282
           11111111111111
Sbjct: 385 cggtgcccgtgcgacgggtg 404
  CDS
                   69..923
>gi|20555609|ref|XM 165720.1|
                               Homo sapiens HCR (a-helix coiled-coil rod
homologue) (HCR), mRNA
Identities = 15/15 (100%)
Query: 275 gaccggtggtggtag 289
           111111111111111
Sbjct: 1573 gaccggtggtggtag 1559
 CDS
                 80..2428
>gi|10947055|ref|NM 020987.1|
                                Homo sapiens ankyrin 3, node of Ranvier (ankyrin
G) (ANK3), transcript variant 1, mRNA
Identities = 21/21 (100%)
```

gtggtggtagtggtggtg 300 Query: 280 1111111111111111111111 Sbjct: 12113 gtggtggtagtggtggtg 12093 Identities = 21/22 (95%) Query: 279 ggtggtggtagtggtggtg 300 11111111 Sbjct: 12096 ggtggtggcagtggtggtggtg 12075 Identities = 18/18 (100%) Query: 279 ggtggtggtagtggt 296 1111111111111111111 Sbjct: 12123 ggtggtggtagtggtggt 12106 Identities = 20/22 (90%) Query: 279 ggtggtggtagtggtggtg 300 111111 11 11111111111 Sbjct: 12111 ggtggtagtggtggtggtggtg 12090 Identities = 19/21 (90%) Query: 279 ggtggtggtagtggtggt 299 Sbjct: 12126 ggtggtggtggtagtggtggt 12106 Identities = 13/13 (100%) Query: 279 ggtggtggtagtg 291 11111111111 Sbjct: 12081 ggtggtggtagtg 12069 CDS 193..13326 >gi|7662227|ref|NM 014841.1| Homo sapiens synaptosomal-associated protein, 91kDa homolog (mouse) (SNAP91), mRNA Identities = 20/20 (100%) Query: 279 ggtggtggtagtggtgg 298 111111111111111111111 Sbjct: 1890 ggtggtggtagtggtgg 1871 CDS 244..2967 Identities = 14/14 (100%) Query: 279 ggtggtggtagtgg 292 111111111111 Sbjct: 717 ggtggtggtagtgg 704 Identities = 19/21 (90%) Query: 279 ggtggtggtagtggtggt 299 Sbjct: 729 ggtggtagtggtggtggt 709 CDS 320..1168

```
>gi|5453935|ref|NM 006236.1|
                             Homo sapiens POU domain, class 3, transcription
factor 3 (POU3F3),
Identities = 21/22 (95%)
Query: 279 ggtggtggtagtggtggtggtg 300
          11111111 111111111111
Sbjct: 829 ggtggtggtggtggtggtg 808
CDS
               1..1503
>gi|21396478|ref|NM 005924.2|
                              Homo sapiens mesenchyme homeo box 2 (growth
arrest-specific homeo box) (MEOX2), mRNA
Identities = 21/22 (95%)
Query: 279 ggtggtggtagtggtggtggtg 300
          Sbjct: 404 ggtggtggtggtggtggtg 383
Identities = 21/22 (95%)
Query: 279 qqtqqtqqtaqtqqtqqtq 300
          1111111111 11111111111
Sbjct: 407 ggtggtggtggtggtggtg 386
Identities = 20/22 (90%)
Query: 279 ggtggtggtagtggtggtggtg 300
          111111 1 1111111111
Sbjct: 416 ggtggtgatggtggtggtg 395
 CDS
                 182..1093
>gi|21361336|ref|NM 001969.2|
                              Homo sapiens eukaryotic translation initiation
factor 5 (EIF5), mRNA
Identities = 21/22 (95%)
Query: 279 ggtggtggtagtggtggtggtg 300
           Sbjct: 1022 ggtggtggtggtggtggtggtg 1001
Identities = 19/20 (95%)
Query: 281 tggtggtagtggtggtg 300
           Sbjct: 1023 tggtggtggtggtggtggtg 1004
CDS
                469..1764
>gi|12597624|ref|NM 012068.2|
                              Homo sapiens activating transcription factor 5
(ATF5), mRNA
Identities = 20/20 (100%)
Query: 281 tggtggtagtggtggtg 300
          11111111111111111111
Sbjct: 730 tggtggtagtggtggtgg 711
>gi|20127494|ref|NM 006237.2|
                              Homo sapiens POU domain, class 4, transcription
factor 1 (POU4F1),
Identities = 21/22 (95%)
Query: 279 ggtggtggtagtggtggtggtg 300
          111111111 111111111111
Sbjct: 553 ggtggtggtggtggtggtg 532
```

```
Identities = 21/22 (95%)
Query: 279 ggtggtggtagtggtggtggtg 300
           Sbjct: 556 ggtggtggtggtggtggtg 535
Identities = 19/20 (95%)
Query: 281 tggtggtagtggtggtg 300
          111111 11111111111
Sbjct: 560 tggtggtggtggtggtggtg 541
   CDS
                  235..1497
>gi|20379115|gb|AF498971.1|
                             Homo sapiens small GTP binding protein RhoB (ARHB)
mRNA, complete
Identities = 15/15 (100%)
Query: 299 tggtggtggtggcg 313
          Sbjct: 23 tggtggtggtgggcg 37
CDS
               1..591
>qi|190939|qb|M38453.1|HUMRASTG
                                 Human ras transforming protein gene, exon 1
Identities = 15/15 (100%)
Query: 299 tggtggtggtgggcg 313
           111111111111111
Sbjct: 149 tggtggtggtggcg 163
 exon
                133..243
>gi|20544140|ref|NM 003185.2|
                               Homo sapiens TAF4 RNA polymerase II, TATA box
binding protein(TBP)-associated factor, 135kDa (TAF4), mRNA
Identities = 14/14 (100%)
Query: 299 tggtggtggtggc 312
           1111111111111
Sbjct: 125 tggtggtggtggc 112
    CDS
                   1..3252
>qi|21361862|ref|NM 033104.2|
                               Homo sapiens stonin 2 (STN2), mRNA
Identities = 14/14 (100%)
Query: 299 tggtggtggtggc 312
           11111111111111
Sbjct: 2110 tggtggtggtggc 2097
 CDS
                202..2919
>gi|22597105|gb|AF521671.1|
                             Homo sapiens SWI/SNF chromatin remodeling complex
subunit OSA2
Identities = 14/14 (100%)
Query:299 tggtggtggtggc 312
         1111111111111
Sbjct: 68 tggtggtggtggc 55
  CDS
                 <1..6498
>gi|22051956|ref|XM 113625.2|
                               Homo sapiens similar to Antrax toxin receptor
precursor (Tumor endothelial marker 8) (LOC195977), mRNA
Identities = 14/14 (100%)
Query: 299 tggtggtggtggc 312
           Sbjct: 411 tggtggtggtgggc 398
```

CDS 251..1171

Homo sapiens endocytosis protein HSTNB >gi|17863992|gb|AF449430.1|AF449430 variant mRNA, complete cds Identities = 14/14 (100%) Query: 299 tggtggtggtggc 312 1111111111111 Sbjct: 2110 tggtggtggtggc 2097 CDS 202..2919 >gi|11065969|gb|AF193855.1|AF193855 Homo sapiens zinc finger protein of cerebellum ZIC2 (ZIC2) mRNA, Identities = 14/14 (100%) Query: 299 tggtggtggtggc 312 11111111111 Sbjct: 701 tggtggtggtggc 688 CDS 1..1599 >qi|17474021|ref|XM 058523.1| Homo sapiens similar to MDM2 variant FB29 (LOC121015), mRNA Identities = 14/14 (100%) Query: 302 tggtggtgggcggg 315 Sbjct: 117 tggtggtgggcggg 104 CDS 26..418 >gi|21361620|ref|NM 002633.2| Homo sapiens phosphoglucomutase 1 (PGM1), mRNA Identities = 14/14 (100%) Query: 302 tggtggtgggcggg 315 1111111111111 Sbjct: 383 tggtggtgggcggg 396 CDS 214..1902 >gi|6979929|gb|AF221759.1|AF221759 Homo sapiens Mam1 mRNA, partial cds Identities = 14/14 (100%) Query: 303 ggtggtgggcgggt 316 Sbjct: 1643 ggtggtgggcgggt 1630 <1..2682 CDS Homo sapiens properdin P factor, complement >gi|4505736|ref|NM 002621.1| (PFC), mRNA Identities = 14/14 (100%) Query: 306 ggtgggcgggtact 320 1111111111111 Sbjct: 1493 ggtgggcgggtact 1480 CDS 243..1652 >gi|20127484|ref|NM 005654.2| Homo sapiens nuclear receptor subfamily 2, group F, member 1 (NR2F1), mRNA Identities = 14/14 (100%) Query: 319 tagcgcgacgtggg 332 111111111111 Sbjct: 705 tagcgcgacgtggg 692 98..1369 CDS

```
/note="Transcription factor COUP 1 (chicken ovalbumin upstream promoter 1,;
transcription factor COUP 1 "
>gi|16418382|ref|NM 052876.1|
                                Homo sapiens transcriptional repressor NAC1
(NAC1), mRNA
Identities = 15/15 (100%)
Query: 326 acgtgggcgaccagt 340
           1111111111111
Sbjct: 404 acgtgggcgaccagt 418
    CDS
                    127..1710
/note="contains POZ domain"
>gi|16445431|ref|NM 033662.1|
                                Homo sapiens WD repeat domain 4 (WDR4),
transcript variant 3, mRNA
Identities = 16/16 (100%)
Query: 328 gtgggcgaccagtggc 343
           111111111111111
Sbjct: 882 gtgggcgaccagtggc 897
                  363..1163
/note="isoform 2 is encoded by transcript variant 3; WD repeat-containing
protein 4"
>gi|22027497|ref|NM 012295.2|
                               Homo sapiens calcineurin binding protein 1
(CABIN1), mRNA
Identities = 15/15 (100%)
Query: 334 gaccagtggctgctg 348
            1111111111111
Sbjct: 1787 gaccagtggctgctg 1801
    CDS
                    128..6790
>gi|20336259|ref|NM 015866.2| Homo sapiens PR domain containing 2, with ZNF
domain (PRDM2), transcript variant 2, mRNA
Identities = 14/14 (100%)
Query: 336 ccagtggctgctgg 349
            Sbjct: 3329 ccagtggctgctgg 3316
                 857..5905
/note="isoform b is encoded by transcript variant 2; zinc-finger DNA-binding
protein; retinoblastoma protein-interacting zinc finger protein; MTE-binding
protein"
>gi|22042322|ref|XM 015428.3|
                               Homo sapiens similar to CGI-105 protein
(LOC151313), mRNA
Identities = 14/14 (100%)
Query: 337 cagtggctgctggg 350
           Sbjct: 620 cagtggctgctggg 633
CDS
                11..955
>gi|20270612|ref|NG 001318.1|
                               Homo sapiens HSP40 pseudogene (HSP40)
Identities = 14/14 (100%)
Query: 337 cagtggctgctggg 350
            11111111111
Sbjct: 2499 cagtggctgctggg 2486
misc feature
               1..2882
```

```
>gi|21265045|ref|NM 139027.1|
                                Homo sapiens a disintegrin-like and
metalloprotease (reprolysin type) with thrombospondin type 1 motif, 13
(ADAMTS13), transcript variant 2, mRNA
Identities = 17/17 (100%)
Query: 339 gtggctgctgggctggg 355
            111111111111111
Sbjct: 3812 gtggctgctgggctggg 3828
  CDS
                  445..4560
(vWF)-cleaving protease, which is responsible for cleaving at the
>gi|22050832|ref|XM 114863.2|
                                Homo sapiens similar to alpha 2 type IV collagen
preproprotein; canstatin (LOC203630), mRNA
Identities = 16/16 (100%)
Query: 339 gtggctgctgggctgg 354
           1111111111111111
Sbjct: 450 gtggctgctgggctgg 465
 CDS
                 1..1425
/product="similar to alpha 2 type IV collagen preproprotein; canstatin"
>gi|22064435|ref|XM 017037.3|
                                Homo sapiens suppressor of Ty 6 homolog (S.
cerevisiae) (SUPT6H),
Identities = 15/15 (100%)
Query: 340 tggctgctgggctgg 354
            1111111111111
Sbjct: 4624 tggctgctgggctgg 4610
   CDS
                   161..4972
>gi|20149786|gb|AF039196.3|
                              Homo sapiens putative single zinc finger
transcription factor protein (hairless) mRNA, complete cds
Identities = 15/15 (100%)
Query: 341 ggctgctgggctggg 355
            11111111111111
Sbjct: 4218 ggctgctgggctggg 4204
                 1485..5054
/note="restricted expression in the brain and skin"
>gi|20070162|ref|NM 018896.2|
                                Homo sapiens calcium channel, voltage-dependent,
alpha 1G subunit (CACNA1G), mRNA
Identities = 15/15 (100%)
Query: 342 gctgctgggctgggt 356
            11111111111111
Sbjct: 1440 gctgctgggctgggt 1426
                  1..7134
  CDS
>gi|18564486|ref|XM 094865.1|
                                Homo sapiens similar to Olfactory receptor 4F3
(LOC168119), mRNA
Identities = 15/15 (100%)
Query: 343 ctgctgggctgggtt 357
          3111111111111
Sbjct: 49 ctgctgggctgggtt 35
 CDS
                  1..978
>gi|4503532|ref|NM 001417.1|
                               Homo sapiens eukaryotic translation initiation
factor 4B (EIF4B),
```

```
Identities = 16/16 (100%)
Query: 350 gctgggttcacgtggt 365
           111111111111111
Sbjct: 393 gctgggttcacgtggt 378
 CDS
                 1..1836
>gi|4557252|ref|NM 001109.1|
                              Homo sapiens a disintegrin and metalloproteinase
domain 8 (ADAM8),
Identities = 15/15 (100%)
Query: 360 cgtggtggttgt.374
            111111111111111
Sbjct: 1980 cgtggtggtggttct 1994
 CDS
                10..2484
>gi|20143921|ref|NM 133437.1|
                               Homo sapiens titin (TTN), transcript variant
novex-2, mRNA
Identities = 17/18 (94%)
Query: 360
            cgtggtggtggttctcca 377
             1111 11111111111
Sbjct: 33611 cgtgatggtggttctcca 33628
 CDS
                 224..81580
/note="isoform novex-2 is encoded by transcript variant novex-2; connectin;
CMH9, included"
>gi|22726242|gb|BC037404.1|
                            Homo sapiens, Similar to formin binding protein 4,
clone MGC:36749
Identities = 14/14 (100%)
Query: 361 gtggtggttct 374
            Sbjct: 2743 gtggtggtggttct 2730
                  28..3075
   CDS
>qi|4557234|ref|NM 000018.1|
                              Homo sapiens acyl-Coenzyme A dehydrogenase, very
long chain (ACADVL), nuclear gene encoding mitochondrial protein, mRNA
Identities = 14/14 (100%)
Query: 362 tggtggtggttctc 375
            Sbjct: 1818 tggtggtggttctc 1831
                 86..2053
>qi|22048275|ref|XM 063346.3|
                               Homo sapiens similar to polypyrimidine-tract
binding protein (LOC122888), mRNA
Identities = 14/14 (100%)
Query: 363 ggtggtggttctcc 376
            11111111111
Sbjct: 1345 ggtggtggttctcc 1332
  CDS
                  1..1461
>gi|4885524|ref|NM 005490.1|
                              Homo sapiens SH2 domain containing 3A (SH2D3A),
 Identities = 15/15 (100%)
Query: 390 ctgcgcgctcctcca 414
            11111111111111111
Sbjct: 1319 ctgcgcgctcctcca 1305
  CDS
                  152..1882
```

```
Homo sapiens elaC homolog 1 (E. coli) (ELAC1),
>gi|22060841|ref|XM 165659.2|
mRNA
Identities = 16/16 (100%)
Query: 397 ctcctccatcacccac 412
           1111111111111111
Sbjct: 894 ctcctccatcacccac 879
  CDS
                   108..1199
/product="similar to elaC homolog 1 (E. coli); similar to Escherichia coli elaC;
hypothetical protein D29; elaC
                               Homo sapiens PR domain containing 4 (PRDM4), mRNA
>qi|9055315|ref|NM 012406.2|
Identities = 15/15 (100%)
Query: 397 ctcctccatcaccca 411
            111111111111
Sbjct: 1109 ctcctccatcaccca 1123
   CDS
                   123..2528
>gi|22046620|ref|XM_069728.3| Homo sapiens similar to beta-glucuronidase
(LOC136132), mRNA
Identities = 15/15 (100%)
Query: 399 tcctccatcacccac 413
           111111111111111
Sbjct: 663 tcctccatcacccac 649
    CDS
                    1..972
                              Homo sapiens, ATP-binding cassette, sub-family D
>gi|19263734|gb|BC025358.1|
(ALD), member 1,
Identities = 15/15 (100%)
Query: 400 ctccatcacccaccg 414
            Sbjct: 2364 ctccatcacccaccg 2378
  CDS
                  400..2637
>gi|11968022|ref|NM 022473.1|
                                Homo sapiens zinc finger protein 106 (ZFP106),
mRNA
Identities = 15/15 (100%)
Query: 400 ctccatcacccaccg 414
            1111111111111
Sbjct: 3838 ctccatcacccaccg 3852
 CDS
                 336..5987
                                Homo sapiens similar to Adrenoleukodystrophy
>gi|18586624|ref|XM 085530.1|
protein (ALDP)
Identities = 15/15 (100%)
Query: 400 ctccatcacccaccg 414
           11111111111111
Sbjct: 310 ctccatcacccaccg 324
                  134..583
  CDS
                  161..376
  misc feature
>gi|19743876|ref|NM 002918.2|
                                Homo sapiens regulatory factor X, 1 (influences
HLA class II expression) (RFX1), mRNA
```

```
Identities = 15/15 (100%)
Query: 406 cacccaccgctgctg 420
           1111111111111
Sbjct: 220 cacccaccgctgctg 234
CDS
                 93..3032
>gi|19263734|gb|BC025358.1|
                             Homo sapiens, ATP-binding cassette, sub-family D
(ALD), member 1,
Identities = 15/15 (100%)
Query: 410 ctccatcacccaccg 424
            11:11:11:11:11
Sbjct: 2364 ctccatcacccaccg 2378
  CDS
                  400..2637
>gi|18586624|ref|XM 085530.1|
                                Homo sapiens similar to Adrenoleukodystrophy
protein (ALDP) (LOC146640), mRNA
Identities = 15/15 (100%)
Query: 410 ctccatcacccaccg 424
           11111111111111
Sbjct: 310 ctccatcacccaccg 324
  CDS
                  134..583
>gi|11968022|ref|NM 022473.1|
                               Homo sapiens zinc finger protein 106 (ZFP106),
Identities = 15/15 (100%)
Query: 410 ctccatcacccaccg 424
            Sbjct: 3838 ctccatcacccaccg 3852
                 336..5987
CDS
>gi|13184045|ref|NM 023944.1|
                                Homo sapiens cytochrome P450, subfamily IVF,
polypeptide 12 (CYP4F12), mRNA
Identities = 17/17 (100%)
Query: 413 cgctgctgagcctgccc 429
          1111111111111111
Sbjct: 35 cgctgctgagcctgccc 51
CDS
                 31..1605
>gi|23821028|ref|NM 153486.1|
                               Homo sapiens lactate dehydrogenase D (LDHD),
mRNA
Identities = 20/22 (90%)
Query: 424 ctgcccgacgcgcgctcctgc 445
           11111111111
Sbjct: 637 ctgcccgacgggcggctgctgc 658
                    58..1518
   CDS
>qi|24528580|qb|AF079529.2|
                             Homo sapiens cAMP-specific phosphodiesterase 8B1
(PDE8B) mRNA, complete cds; alternatively spliced
Identities = 15/15 (100%)
Query: 427 cccgacgcgcgctc 441
           1111111111111
Sbjct: 224 cccgacgcgcgctc 210
CDS
                46..2703
```

```
>qi|22001416|ref|NM 015465.1|
                               Homo sapiens gemin 5 (GEMIN5), mRNA
SMN complex component; Sm-interacting protein; DKFZP586M1824 protein
Identities = 14/14 (100%)
Query: 434 cgcggctcctgccc 447
         11111111111111
Sbjct: 17 cgcggctcctgccc 4
   CDS
                   1..4527
                                Homo sapiens BLR1 gene for Burkitt's lymphoma
>gi|29459|emb|X68149.1|HSBLR1A
receptor 1
Identities = 18/19 (94%)
Query: 434 cgcggctcctgcccaagct 452
           Sbjct: 1085 cgcggctcctgaccaagct 1103
 CDS
                 85..1203
>qi|840783|emb|X68829.1|HSMDCR
                                H. sapiens mRNA for MDR15 protein
Identities = 18/19 (94%)
Query: 434 cgcggctcctgcccaagct 452
           111111111111
Sbjct: 1154 cgcggctcctgaccaagct 1172
 CDS
                 289..1272
>gi|5032094|ref|NM 005630.1|
                              Homo sapiens solute carrier family 21
(prostaglandin transporter), member 2 (SLC21A2), mRNA
Identities = 17/17 (100%)
Query: 437 ggctcctgcccaagctc 453
           11111111111111111
Sbjct: 88
          ggctcctgcccaagctc 104
                  84..2015
>gi|4505876|ref|NM 000445.1|
                              Homo sapiens plectin 1, intermediate filament
binding protein 500kDa (PLEC1), mRNA
Identities = 17/18 (94%)
Query: 438 gctcctgcccaagctcct 455
            3111111 111111111
Sbjct: 7156 gctcctgcgcaagctcct 7139
                    52...13776
/function="high molecular weight cytoskeletal-associated protein which is a
component of hemidesmosomes in basal keratinocytes and also a component of the
sarcolemma in muscle (HD1)
>gi|22058106|ref|XM 171754.1|
                                Homo sapiens similar to a disintegrin-like and
metalloprotease (reprolysin type) with thrombospondin type 1 motif, 17
preproprotein (LOC257018), mRNA
Identities = 15/15 (100%)
Query: 438 gctcctgcccaagct 452
          111111111111111
Sbjct: 91
          gctcctgcccaagct 77
                 1..420
 CDS
>gi|4505936|ref|NM 002693.1|
                               Homo sapiens polymerase (DNA directed), gamma
(POLG), nuclear gene encoding mitochondrial protein, mRNA
Identities = 14/14 (100%)
```

```
Query: 438 gctcctgcccaagc 451
            Sbjct: 1953 gctcctgcccaagc 1966
  CDS
                  283..4002
>gi|533527|gb|U10694.1|HSU10694
                                  Human MAGE-9 antigen (MAGE9) gene, complete
Identities = 18/19 (94%)
Query: 438 gctcctgcccaagctcctg 456
            11111111111 111111
Sbjct: 1290 gctcctgcccacgctcctg 1308
  exon
                  1268..>2845
 CDS
                 1333..2280
>gi|4758361|ref|NM 004112.1|
                              Homo sapiens fibroblast growth factor 11 (FGF11),
Identities = 16/16 (100%)
Query: 442 ctgcccaagctcctgg 457
           11111111111111111
Sbjct: 589 ctgcccaagctcctgg 604
  CDS
                  1..678
>gi|13435128|ref|NM_022089.1|
                                Homo sapiens putative ATPase (HSA9947), mRNA
Identities = 17/18 (94\%)
Query: 442 ctgcccaagctcctggtc 459
            1111111111111111111
Sbjct: 2555 ctgcccaaggtcctggtc 2572
  CDS
                  35..3577
>qi|24308028|ref|NM 015296.1|
                                Homo sapiens zizimin1 (zizimin1), mRNA
Identities = 14/14 (100\%)
Query: 445
             cccaagctcctggt 458
            111111111111111
Sbjct: 2431 cccaagctcctggt 2418
                    56..6265
    CDS
note="Cdc42 activator"
>gi|22043940|ref|XM 060678.5|
                                Homo sapiens similar to Synaptotagmin II (SytII)
(LOC127833), mRNA
Identities = 14/14 (100%)
Query: 445 cccaagctcctggt 458
           111111111111
Sbjct: 540 cccaagctcctggt 527
 CDS
                  1..1278
>gi|18599586|ref|XM 092362.1|
                                Homo sapiens similar to
evidence: NAS~hypothetical protein~putative (LOC165086), mRNA
Identities = 17/18 (94%)
Query: 448 aagctcctggtctaggag 465
           111111111111 111
Sbjct: 776 aagctcctggtctgggag 759
CDS
                 1..936
>gi|23336903|tpg|BK000566.1|
                               TPA: Homo sapiens SF3b125 DEAD-box protein mRNA,
complete cds,
```

Identities = 14/14 (100%) Query: 452 tcctggtctaggag 465 111111111111 Sbjct: 399 tcctggtctaggag 386 CDS 1..2460 >gi|22052707|ref|XM\_172523.1| Homo sapiens similar to N-formyl peptide receptor (LOC256135), mRNA Identities = 14/14 (100%) Query: 460 taggagtaaggcca 473 Sbjct: 410 taggagtaaggcca 397 81..560 CDS >gi|474428|emb|Z31702.1|HSP53DN H.sapiens p5-3 DNA Identities = 16/16 (100%) Query: 461 aggagtaaggccatgg 476 Sbjct: 264 aggagtaaggccatgg 279 1..1464 Non-homologous recombination within the major histocompatibility complex creates a transcribed hybrid sequence >gi|18550199|ref|XM 059368.2| Homo sapiens similar to thymidylate kinase family LPS-inducible member; thymidylate kinase homologue (LOC129607), mRNA Identities = 14/14 (100%) Query: 467 aaggccatgggcgc 480 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 Sbjct: 23 aaggccatgggcgc 10 CDS 16..1365 >qi|6706902|emb|AL109827.8|HSJ309K20 Human DNA sequence from clone RP1-309K20 on chromosome 20 Contains the gene for a novel protein similar to dysferlin, the SPAG4 gene for sperm associated antigen 4, the CPNE1 gene for Copine I (similar to KIAA0636), the gene KIAA0765 (HRIHFB2091) for an RNA recognition motif (RNP, RRM or RBD domain) containing protein and the 3' end of the NIFS gene for cysteine desulfurase. Identities = 16/16 (100%) Query: 468 aggccatgggcgcgc 483 1111111111111 Sbjct: 7506 aggccatgggcgcgc 7491 CDS 7357..7540 >gi|21614532|ref|NM 144957.1| Homo sapiens protease, serine, 21 (testisin) (PRSS21), transcript variant 3, mRNA Identities = 14/14 (100%) Query: 468 aggccatgggcgcg 481 111111111111 Sbjct: 102 aggccatgggcgcg 115 107..1009 CDS >gi|18087852|ref|NM 080672.1| Homo sapiens Q9H4T4 like (H17739), mRNA Identities = 18/19 (94%)

```
Query: 469 ggccatgggcgggcggc 487
           1111111111
Sbjct: 141 ggccatgggccggccggc 123
 CDS
                 136..1815
>gi|790818|gb|L39891.1|HUMPKD1GEN
                                    Homo sapiens polycystic kidney disease-
associated protein (PKD1) gene,
Identities = 16/16 (100%)
Query: 475
             gggcgcggccgccgc 490
             111111111111111
Sbjct: 50097 gggcgcggccggccgc 50082
               49997..50171
  CDS
>gi|24429581|ref|NM 153813.1|
                               Homo sapiens friend of GATA-1 (FOG1), mRNA
Identities = 14/14 (100%)
Query: 475 gggcgcggccggcc 487
            11111111111111
Sbjct: 2503 gggcgcggccggcc 2490
    CDS
                    323..3337
>gi|22094134|ref|NM 032482.1|
                               Homo sapiens histone methyltransferase DOT1L
(DOT1L), mRNA
Identities = 14/14 (100%)
Query: 476 ggcgcggccggccg 489
            Sbjct: 2314 ggcgcggccggccg 2301
  CDS
                  37..4650
function="methylates lysine 79 of histone H3"
>gi|4759111|ref|NM 004207.1|
                               Homo sapiens solute carrier family 16
(monocarboxylic acid transporters), member 3 (SLC16A3), mRNA
Identities = 14/14 (100%)
Query: 477 gcgcggccggccgc 490
           111111111111
Sbjct: 891 gcgcggccggccgc 904
  CDS
                  63..1460
>gi|20544351|ref|XM 005702.8|
                                Homo sapiens wingless-type MMTV integration site
family, member 8B (WNT8B), mRNA
Identities = 14/14 (100%)
Query: 477 gcgcggccggccgc 490
           11111111111
Sbjct: 808 gcgcggccggccgc 821
    CDS
                    129..1184
>gi|23452045|gb|AF494409.1|
                            Homo sapiens pantothenate kinase 2 mRNA, complete
Identities = 15/15 (100%)
Query: 480 cggccggccgctct 494
           1111111111111111
Sbjct: 279 cggccggccgcctct 265
                    7..1719
gi|2213644|gb|U63833.1|HSU63833
                                  Human PAX6 gene, promoter region and exons 1
and 2
```

```
Identities = 16/16 (100%)
Query: 482 gccggccgcctctgct 497
           111111111111111
Sbjct: 114 gccggccgcctctgct 129
promoter
                1..3274
/note="isoform 2 is encoded by transcript variant 2; ortholog of mouse CNR5;
KIAA0345-like 1"
>gi|14589892|ref|NM 001794.2|
                                Homo sapiens cadherin 4, type 1, R-cadherin
(retinal) (CDH4), mRNA
Identities = 15/15 (100%)
Query: 483 ccggccgcctctgct 497
            Sbjct: 2841 ccggccgcctctgct 2827
CDS
                15...2765
This gene is a classical cadherin from the cadherin superfamily. The encoded
protein is a calcium-dependent cell-cell adhesion glycoprotein. studies
>qi|11545830|ref|NM 022114.1|
                                Homo sapiens PR domain containing 16 (PRDM16),
mRNA/ Identities = 15/15 (100%)
Query: 483 ccggccgcctctgct 497
            Sbjct: 1638 ccggccgcctctgct 1652
                  1..4376
  gene
>gi|14165396|ref|NM 031865.1|
                                Homo sapiens protocadherin alpha 13 (PCDHA13),
transcript variant 2,
Identities = 16/16 (100%)
Query: 484 cggccgcctctgctgc 499
            11111111111111
Sbjct: 2268 cggccgcctctgctgc 2253
  CDS
                  1..2424
>gi|12697311|emb|AJ295990.1|HSA295990
                                        Homo sapiens mRNA for putative chromatin
modulator, alternative splice NSD3L
Identities = 15/15 (100%)
Query: 485 ggccgcctctgctgc 499
            1111111111111
Sbjct: 4514 ggccgcctctgctgc 4528
    CDS
                    314..4627
/note="alternative splice NSD3L"
<gi|12642816|gb|AF332469.1|AF332469
                                     Homo sapiens putative protein WHSC1L11
(WHSC1L1) mRNA, complete cds, alternatively spliced
Identities = 15/15 (100%)
Query: 485 ggccgcctctgctgc 499
            111111111111111
Sbjct: 4719 ggccgcctctgctgc 4733
  CDS
                  519..4832
>gi|17474463|ref|XM 062506.1|
                                Homo sapiens similar to 60S acidic ribosomal
protein P2(LOC121193), mRNA
Identities = 15/15 (100%)
```

```
Query: 485 ggccgcctctgctgc 499
           111111111111111
Sbjct: 278 ggccgcctctgctgc 292
                1..351
product="similar to 60S acidic ribosomal protein P2"
>qi|22035673|ref|NM 006031.2|
                                Homo sapiens pericentrin 2 (kendrin) (PCNT2),
                                    88
Score = 30.2 bits (15), Expect =
 Identities = 15/15 (100%)
Query: 487 ccgcctctgctgcag 501
            1111111111111
Sbjct: 3442 ccgcctctgctgcag 3428
                  53..10063
  CDS
The protein encoded by this gene binds to calmodulin and is expressed in the
centrosome.
                                      Homo sapiens Clorf14 mRNA, complete cds
>qi|12620204|qb|AF288398.1|AF288398
Identities = 16/16 (100%)
Query: 489 gcctctgctgcagatg 504
            1111111111111111
Sbjct: 1282 gcctctgctgcagatg 1267
  CDS
                  69..2246
note="alternatively spliced"
                                     Homo sapiens MSTP098 (MST098) mRNA,
>qi|9622520|qb|AF173157.1|AF173157
complete cds
Identities = 16/16 (100%)
Query: 489 gcctctgctgcagatg 504
           1111111111111111
Sbjct: 329 gcctctgctgcagatg 314
    CDS
                    239..460
                                Homo sapiens similar to coxsackievirus and
>gi|22046810|ref|XM 089096.2|
adenovirus receptor-like protein (LOC163724), mRNA
Identities = 15/15 (100%)
Query: 490 cctctgctgcagatg 504
           111111111111111
Sbjct: 578 cctctgctgcagatg 564
                291..1466
CDS
                552..674
misc feature
                                Homo sapiens colony stimulating factor 2
>qi|20070194|ref|NM 006140.2|
receptor, alpha, low-affinity (granulocyte-macrophage) (CSF2RA), mRNA
Identities = 17/18 (94%)
Query: 512 tctgcgaccagtggcacc 529
           111111 | 111111111
Sbjct: 248 tctgcgaacagtggcacc 265
  CDS
                  171..1373
                                       Homo sapiens, Similar to SRp25 nuclear
>gi|15990415|gb|BC015569.1|BC015569
protein,
Identities = 14/14 (100%)
Query: 517 gaccagtggcaccg 430
           1111111111111
Sbjct: 406 gaccagtggcaccg 419
   CDS
                   37..684
```

```
Homo sapiens contactin-associated protein
>qi|13624213|qb|AF319045.1|AF319045
2 (CNTNAP2) mRNA, complete
Identities = 14/14 (100%)
Query: 517 gaccagtggcaccg 530
            1111111111111
Sbjct: 2778 gaccagtggcaccg 2791
    CDS
                    141..4136
>gi|14702161|ref|NM 032421.1|
                                Homo sapiens cytoplasmic linker 2 (CYLN2),
transcript variant 2,
Identities = 14/14 (100%)
Query: 519 ccagtggcaccgcc 532
           11111111111111
Sbjct: 314 ccagtggcaccgcc 327
CDS
                328..3363
note="synonyms: WSCR4, WBSCR4, CLIP-115, KIAA0291, MGC11333"
note="isoform 2 is encoded by transcript variant 2;
Williams-Beuren syndrome chromosome region 4"
>gi|22044320|ref|XM 086178.5|
                                Homo sapiens agrin (AGRN), mRNA
Identities = 14/14 (100\%)
Query: 419 ccaqtqqcaccqcc 432
            1111111111111
Sbjct: 4325 ccagtggcaccgcc 4338
   CDS
                    366..6107
>gi|4885506|ref|NM 005468.1|
                               Homo sapiens N-acetylated alpha-linked acidic
dipeptidase-like; ILEAL DIPEPTIDYLPEPTIDASE (NAALADASEL), mRNA
Identities = 14/14 (100%)
Query: 520 cagtggcaccgccg 533
            1111111111111
Sbjct: 1156 cagtggcaccgccg 1169
    CDS
                    17..2239
/function="peptidase"
>qi|23943861|ref|NM 020378.1|
                                Homo sapiens K562 cell-derived leucine-zipper-
like protein 1 (KLP1), mRNA
Identities = 15/15 (100%)
Query: 523 tggcaccgccgccgg 538
           Sbjct: 486 tggcaccgccgcgg 500
                90..710
note="K562 cells-derived leucine-zipper-like protein 1"
>gi|20384683|gb|AY030095.1|
                              Homo sapiens pancreasin mRNA, complete cds
Identities = 17/17 (100%)
Query: 524 ggcaccgccgccggccg 540
           111111111111111111
Sbjct: 23
           ggcaccgccgccggccg 7
                   1..873
note="CAPH2; channel-activating protease 2; tryptic serine protease; similar to
marapsin"
>gi|20552317|ref|XM_096904.4|
                                Homo sapiens Kruppel-like factor 13 (KLF13),
 Identities = 15/15 (100%)
```

```
Query: 525 gcaccgccgccggcc 539
           11111111111111
Sbjct: 20
           gcaccgccgccggcc 34
CDS
                47..913
note="synonyms: BTEB3, FKLF2, NSLP1, FKLF-2, RFLAT1, RFLAT-1"
/product="similar to Krueppel-like factor 13
>gi|14727714|ref|XM_045113.1|
                                Homo sapiens astrotactin (ASTN), mRNA
Identities = 15/15 \overline{(100\%)}
Query: 525 gcaccgccgccggcc 539
           11111111111111
Sbjct: 72
           gcaccgccgccggcc 58
  CDS
                  15..3899
product="similar to KIAA0289"
>gi|22538424|ref|NM 145691.2|
                                Homo sapiens ATP synthase mitochondrial F1
complex assembly factor 2 (ATPAF2), nuclear gene encoding mitochondrial protein,
Identities = 14/14 (100%)
Query: 525 gcaccgccgccggc 538
           11111111111
Sbjct: 947 gcaccgccggc 960
CDS
                154..1023
>gi|22065230|ref|XM 035037.2|
                                Homo sapiens low density lipoprotein receptor-
related protein 4 (LRP4), mRNA
Identities = 14/14 (100%)
Query: 526 caccgccgccggcc 539
            11111111111111
Sbjct: 2107 caccgccgccggcc 2120
  CDS
                  232..4839
product="similar to MEGF7"
>gi|20545806|ref|XM_007095.6|
                                Homo sapiens insulin receptor substrate 2
(IRS2), mRNA
Identities = 14/14 (100%)
Query: 526 caccgccgccggcc 539
            1111111111111
Sbjct: 3613 caccgccgccggcc 3626
CDS
                516..4532
>gi|4506228|ref|NM 002809.1|
                               Homo sapiens proteasome (prosome, macropain) 26S
subunit, non-ATPase, 3 (PSMD3), mRNA
Identities = 14/14 (100%)
Query: 526 caccgccgccgcc 539
           Sbjct: 237 caccgccgccgcc 250
  CDS
                   158..1762
>gi|1657753|gb|U63721.1|HSU63721
                                   Human elastin (ELN) gene, partial cds, and
LIM-kinase (LIMK1) gene,
Identities = 14/14 (100%)
Query: 526
             caccgccgccggcc 539
             1111111111111
Sbjct: 23610 caccgccgccgcc 23597
```

```
/gene="LIMK1"
>gi|5823551|gb|AF180522.1|AF180522
                                    Homo sapiens intersectin short form 2
(ITSN) mRNA, partial cds
Identities = 14/14 (100%)
Query: 526 caccgccgccggcc 539
           Sbjct: 158 caccgccgccggcc 171
 CDS
                <1..566
>gi|181652|gb|M85247.1|HUMDOPAM
                                 H. sapiens dopamine D1A receptor gene, complete
exon 1, and exon 2, 5' end
Identities = 14/14 (100%)
Query: 531 ccgccggccgttct 543
            11111111111111
Sbjct: 1097 ccgccggccgttct 1110
  misc signal
                 842..1231
function="negative trancriptional modulator"
>gi|23395757|tpg|BK000395.1|
                              TPA: Homo sapiens aflatoxin B1-aldehyde reductase
(AKR7A2) mRNA,
Identities = 14/14 (100%)
Query: 544 tcgccaccgcccag 567
           1111111111
Sbjct: 312 tcgccaccgcccag 299
 CDS
                 23..1102
/note="aldo-keto reductase; serves as a gamma-hydroxybutyrate synthase; the
full-length protein is predicted to contain 29 additional amino acids at the
N-terminus that have not been recognized previously"
>gi|7706102|ref|NM 016568.1|
                              Homo sapiens G-protein coupled receptor SALPR;
somatostatin andangiotensin-like peptide receptor (SALPR), mRNA
Identities = 14/14 (100%)
Query: 547 ccaccgcccagaag 560
           Sbjct: 781 ccaccgcccagaag 768
   CDS
                  361..1770
misc feature
               697..1527
note="7tm_1; Region: 7 transmembrane receptor (rhodopsin
family)"
>gi|18568985|ref|XM 095373.1|
                               Homo sapiens similar to Neutrophil defensin 4
precursor (HNP-4) (HP4) (Defensin, alpha 4) (LOC157295), mRNA
Identities = 14/14 (100%)
Query: 552 gcccagaagcagcc 565
           Sbjct: 181 gcccagaagcagcc 194
CDS
                1..375
misc feature
               145..243
>gi|22053899|ref|XM 092083.2|
                               Homo sapiens similar to golgi autoantigen,
golgin subfamily a, 2; golgin-95 (LOC163220), mRNA
Identities = 14/14 (100%)
```

23511..23730

exon

```
Query: 552 gcccagaagcagcc 565
           Sbjct: 505 gcccagaagcagcc 518
   CDS
                   1..1452
>gi|22053411|ref|XM 050604.4|
                               Homo sapiens AIE-75 binding protein protein
(MCC2), mRNA
Identities = 14/14 (100%)
Query: 553 cccagaagcagccc 566
           Sbjct: 407 cccagaagcagccc 420
 CDS
                 114..2225
>gi|4505326|ref|NM 000263.1|
                              Homo sapiens N-acetylglucosaminidase, alpha-
(Sanfilippo disease IIIB) (NAGLU), mRNA
Identities = 17/18 (94%)
Query: 553 gcccagaagcagcccgcc 569
            1111111111
Sbjct: 1609 gcccagaagctgcccgcc 1626
 CDS
                 333..2564
/function="one of four enzymes involved in the degradation of heparan sulfate;
specifically removes the alpha-N-acetylglucosamine residues"
>gi|15718672|ref|NM 000683.2|
                               Homo sapiens adrenergic, alpha-2C-, receptor
(ADRA2C), mRNA
Identities = 14/14 (100%)
Query: 553 cccagaagcagccc 566
            111111111111111
Sbjct: 2530 cccagaagcagccc 2517
   CDS
                   892..2277
/note="alpha2-AR-C4"
/product="alpha-2C-adrenergic receptor"
>gi|15812179|ref|NM_004926.2|
                               Homo sapiens zinc finger protein 36, C3H type-
like 1 (ZFP36L1),
Identities = 15/15 (100%)
Query: 553 cccagaagcagcccg 578
           Sbjct: 432 cccagaagcagcccg 446
CDS
                131..1147
/note="EGF-response factor 1; early response factor Berg36; zinc finger protein,
C3H type, 36-like 1"
/product="butyrate response factor 1"
>gi|20556994|ref|XM 039877.5|
                               Homo sapiens mucin 5, subtype B,
tracheobronchial (MUC5B), mRNA
Identities = 17/18 (94%)
Query: 555
           cagaagcagccgccgcc 572
            11111111111 | 11111
Sbjct: 1580 cagaagcagccctccgcc 1563
   CDS
                  46..2688
/db xref="MIM:600770"
>gi|22060317|ref|XM_114498.2| Homo sapiens similar to Tcte-1 peptide
(LOC202500), mRNA
Identities = 14/14 (100%)
```

```
Query: 556 agaagcagcccgcc 569
            1:111111111111
Sbjct: 1317 agaagcagcccgcc 1330
 CDS
                 346..1401
>gi|4505032|ref|NM 000752.1|
                               Homo sapiens leukotriene B4 receptor (LTB4R),
 Identities = 19/20 (95%)/note="Chemokine receptor-like 1
Query: 559 agcagcccgccgccgccgc 578
            11111 111111111111
Sbjct: 2595 agcaggccgccgccggcgca 2576 CDS: 1718..2776
>gi|1648869|emb|X98356.1|HSGPCRCO
                                    H.sapiens mRNA for G protein-coupled
receptor
Identities = 19/20 (95%)
Query: 559 agcagccgccgccgcgcgca 578
            Sbjct: 1266 agcaggccgccgccgccgccgcca 1247 CDS: 389..1447
>gi|5032110|ref|NM 005634.1|
                              Homo sapiens SRY (sex determining region Y)-box 3
(SOX3), mRNA
Identities = 15/15 (100%)
Query: 559 agcagccgccgccg 573
           11111111111111
Sbjct: 862 agcagccgccgccg 876
 CDS
                 1..1332
>gi|20548635|ref|XM 167923.1|
                                Homo sapiens homeobox protein Gsh-1 (Gsh-1),
 Identities = 14/14 (100%)
Query: 560 gcagcccgccgccg 573
           111111111111
Sbjct: 116 gcagccgccgccg 129
  CDS
                  49..843
>gi|8923792|ref|NM_017514.1|
                              Homo sapiens likely ortholog of mouse plexin 3
(PLXN3), mRNA
Identities = 14/14 (100%)
Query: 561 cagcccgccgg 574
            Sbjct: 2896 cagcccgccgccgg 2909
 CDS
                 185..5800
>gi|9247121|gb|AF284224.1|AF284224 Homo sapiens DMRT2 and terra-like protein
(DMRT2) bicistronic mRNA,
Identities = 16/16 (100%)
Query: 561 cagcccgccgccgcg 576
           11111111111111111
Sbjct: 111 cagcccgccgccggcg 126
     CDS
                     1..681
/note="putative transcription factor"
>gi|6179565|emb|Y19052.1|HOSA19052
                                    Homo sapiens mRNA for doublesex-like 2
protein (DSXL-2 gene)
Identities = 16/16 (100%)
```

Strand = Plus / Plus Query: 561 cagcccgccgccggcg 576 111111111111111 Sbjct: 565 cagcccgccgccggcg 580 CDS 455..1135 >gi|14165271|ref|NM 032409.1| Homo sapiens PTEN induced putative kinase 1 (PINK1), mRNA Identities = 14/14 (100%) Query: 561 cagcccgccgc 574 11111111111111 Sbjct: 213 cagcccgccgccgg 200 CDS 95..1840 /note="protein kinase BRPK" >gi|21536278|ref|NM 006371.2| Homo sapiens cartilage associated protein (CRTAP), mRNA Identities = 14/14 (100%) Query: 562 agcccgccgccggc 575 1111111111111 Sbjct: 295 agcccgccgccggc 308 CDS 12..1217 The human cartilage associated protein is homologous to the chick and mouse CRTAP genes. >gi|4504646|ref|NM 001560.1| Homo sapiens interleukin 13 receptor, alpha 1 (IL13RA1), mRNA Identities = 15/15 (100%) Query: 564 cccgccgccgcgca 578 1111111111111111 Sbjct: 103 cccgccgccgcgca 89 CDS 44..1327 >gi|4507206|ref|NM\_003130.1| Homo sapiens sorcin (SRI), mRNA Identities = 14/14 (100%) Query:564 cccgccgccggcgc 577 11111111111111 Sbjct: 48 cccgccgccggcgc 35 CDS 13..609 >gi|21735549|ref|NM 002446.2| Homo sapiens mitogen-activated protein kinase kinase kinase 10 (MAP3K10), mRNA Identities = 15/15 (100%) Query: 576 cagccgccgccggc 590 111111111111111 Sbjct: 2885 cagcccgccgccggc 2899 289..3153 /note="mixed lineage kinase 2; MKN28 kinase; MKN28 derived nonreceptor\_type serine/threonine kinase" >gi|18548972|ref|XM 089318.1| Homo sapiens similar to ATP-dependent DNA helicase MER3 (HFM1 protein) (LOC'164045), mRNA Identities = 14/14 (100%)

```
Query: 580 ttcttcccgccgcc 593
           11111111111111
Sbjct: 67
          ttcttcccqccqcc 80
 CDS
                 1..2196
>gi|13929461|ref|NM 001497.2|
                                Homo sapiens UDP-Gal:betaGlcNAc beta 1,4-
galactosyltransferase, polypeptide 1 (B4GALT1), mRNA
Identities = 14/14 (100%)
Query: 581 tcttcccgccgccg 595
           Sbjct: 73 tcttcccgccgccg 60
  CDS
                  73..1269
>gi|21359847|ref|NM 001194.2|
                                Homo sapiens hyperpolarization activated cyclic
nucleotide-gated potassium channel 2 (HCN2), mRNA
Identities = 14/14 (100%)
Query: 581 tcttcccgccgccg 594
            1111111111111111
Sbjct: 2191 tcttcccgccgccg 2204
   CDS
                   54..2723
function="pacemaker channel of human heart"
note="cyclic nucleotide-gated; brain cyclic nucleotide gated channel 2"
>qi|18032269|qb|AF274003.1|AF274003
                                     Homo sapiens splicing-related factor RNPS1
(RNPS1) mRNA, complete cds, alternatively spliced
Identities = 14/14 (100%)
Query:581 tcttcccqccqccq 594
          1111111111111
Sbjct: 46 tcttcccgccgccg 33
 CDS
                 46..894
>gi|4504382|ref|NM 001528.1|
                              Homo sapiens HGF activator (HGFAC), mRNA
Identities = 15/15 (100%)
Query: 590 cgccgttcttctcgc 604
            111111111111111
Sbjct: 1828 cgccgttcttctcgc 1814
 CDS
                  4..1971
>gi|14196470|ref|NM 032054.1|
                               Homo sapiens protocadherin gamma subfamily A, 5
(PCDHGA5), transcript variant 2, mRNA
Identities = 14/14 (100%)
Query: 600 ctcgccgttcttct 613
            11111111111111
Sbjct: 2416 ctcgccgttcttct 2403
 CDS
                 1..2442
cadherin ME3"
/protein id="NP 114443.1"
These gene clusters have an immunoglobulin-like organization, suggesting that a
novel mechanism may be involved in their regulation and expression.
>gi|19923446|ref|NM 015963.2|
                                Homo sapiens CGI-36 protein (CGI-36), mRNA
Identities = 14/14 (100%)
Query: 600 ctcgccgttcttct 613
```

Sbjct: 947 ctcgccgttcttct 934

CDS 807..1565 >gi|21314399|gb|AF508782.1| Homo sapiens fibroblast growth factor 10 (FGF10) mRNA, partial cds Identities = 14/14 (100%) Query: 604 ccgttcttctcaat 617 1111111111111 Sbjct: 173 ccgttcttctcaat 160 CDS <1..513 /function="paracrine growth factor for epithelia" /note="keratinocyte growth factor-2; KGF2; produced by fibroblasts of urinary bladder lamina propria" >gi|22058975|ref|XM 172182.1| Homo sapiens similar to Ribosomal protein S5; Minute(1)15D; Minute; transcript e (LOC255793), mRNA Identities = 14/14 (100%) Query: 606 qttcttctcaatgg 619 1111111111111 Sbjct: 405 gttcttctcaatgg 392 CDS 1..438 >gi|24797096|ref|NM 006907.2| Homo sapiens pyrroline-5-carboxylate reductase 1 (PYCR1), nuclear gene encoding mitochondrial protein, transcript variant 1, mRNA Identities = 14/14 (100%) Query: 607 ttcttctcaatgga 620 111111111111 Sbjct: 598 ttcttctcaatgga 585 279..1238 /note="isoform 1 is encoded by transcript variant 1; P5C reductase" >gi|4186165|gb|L41919.1|HUMHIC1G Homo sapiens candidate tumor suppressor HIC-1 (HIC-1) gene, complete Identities = 20/21 (95%) Query: 626 cgcccggccgccgccgc 646 1111111111111111 Sbjct: 2451 cgcccggccgcgccgccgc 2431 CDS: 637..2781 Isolation and embryonic expression of the novel mouse gene Hicl, the homologue of HIC1, a candidate gene for the Miller-Dieker syndrome >gi|23238250|ref|NM\_032862.2| Homo sapiens tigger transposable element derived 5 (TIGD5) mRNA, Identities = 18/19 (94%) Query:626 cgcccggccgcgccc 644 1111111111 Sbjct: 510 cgcccggcccgccc 528 CDS 1..1782 >gi|17939629|gb|BC019288.1|BC019288 Homo sapiens, hepatocyte nuclear factor 3, beta, clone

Identities = 18/19 (94%)

Query: 626 cgcccggccgccgccc 644

Sbjct: 284 cgcccggccgagccgcc 266

11111111111

42

```
CDS
                 <1..1370
/product="hepatocyte nuclear factor 3, beta"
>gi|22041040|ref|XM 092478.2|
                               Homo sapiens similar to Gliacolin (LOC165257),
mRNA
Identities = 21/23 (91%)
Query: 628 ccccggccgccgccgccacc 650
           1111111 11111111 1111
Sbjct: 810 ccccggcccgccgccaccacc 788
  CDS
                  471..1262
/product="similar to Gliacolin"
>gi|17974541|gb|AF361354.1|AF361354
                                     Homo sapiens voltage-dependent calcium
channel gamma-8 subunit (CACNG8) mRNA, complete cds
Identities = 16/16 (100%)
Query: 628 ccccqqccqcqccqcc 643
            Sbjct: 1132 ccccggccgccgcc 1117
CDS
                106..1386
>gi|24475868|ref|NM 153836.1|
                               Homo sapiens cellular repressor of E1A-
stimulated genes 2 (CREG2),
Identities = 19/20 (95%)
Query: 628 ccccggccgccgccgcc 647
           Sbjct: 177 ccccggccgccgccgcc 158
CDS
               139..1011
>gi|21237772|ref|NM 016431.2|
                               Homo sapiens mitogen-activated protein kinase 8
interacting protein 2(MAPK8IP2), transcript variant 2, mRNA
Identities = 19/19 (100%)
Query: 629 cccggccgccgcccgcc 547
            11111111111111111111
Sbjct: 1276 cccggccgccgccgcc 1294
CDS
                1..2394
/note="PRKM8 interacting protein-like; JNK-interacting protein 2; islet-brain 2;
JNK MAP kinase scaffold protein JIP2; homologous to mouse JIP-1"
>gi|14971412|ref|NM 015906.2|
                               Homo sapiens tripartite motif-containing 33
(TRIM33), transcript variant alpha, mRNA
Identities = 16/16 (100%)
Query: 629 cccggccgcgccgccc 644
           11111111111111111
Sbjct: 267 cccggccgcgccgccc 252
  CDS
                 85..3468
>gi|13183792|gb|AF336133.1|AF336133
                                     Homo sapiens CECR2 protein (CECR2) mRNA,
complete cds
Identities = 16/16 (100%)
Query: 629 cccggccgccgccc 644
           1111111111111111
Sbjct: 448 cccggccgccgccc 433
 CDS
                 419..4873
>gi|22046663|ref|XM 047536.6|
                               Homo sapiens obscurin, cytoskeletal calmodulin
and titin-interacting RhoGEF (OBSCN), mRNA
```

```
Identities = 15/15 (100%)
Query: 631 cggccgcgccgccg 645
          111111111111111
Sbjct: 572 cggccgcgccgcccg 558
 CDS
                 45..18518
/product="similar to obscurin"
>gi|21707308|gb|BC033826.1| Homo sapiens, purinergic receptor P2X, ligand-
gated ion channel, 4, clone MGC:45331 IMAGE:5216449, mRNA, complete cds
Identities = 15/15 (100%)
Query: 632 ggccgcgccgccgc 646
          Sbjct: 24 ggccgcgccgccgc 10
                25..1191
CDS
/product="purinergic receptor P2X, ligand-gated ion channel, 4"
>gi|21450823|ref|NM 145056.1|
                               Homo sapiens thymus expressed gene 3-like
(MGC15476), mRNA
Identities = 16/16 (100%)
Query: 632 ggccgcgccgccgcc 647
          11111111111111
Sbjct: 879 ggccgcgccgcc 894
CDS
               441..1655
>gi|22652729|gb|AF489858.1|
                            Homo sapiens serum amyloid A activating factor 2
mRNA, complete cds
Identities = 16/16 (100%)
Query: 632 ggccgcgccgcccgcc 647
          Sbjct: 550 ggccgcgccgcc 565
                 113..1594
/note="transcription factor SAF-2"
>gi|20558544|ref|XM 028783.2|
                               Homo sapiens opioid growth factor receptor
(OGFR), mRNA
Identities = 15/15 (100%)
Query: 632 ggccgcgccgccgc 646
          Sbjct: 174 ggccgcgccgccgc 160
CDS
               17..2050
/product="similar to 7-60 protein"
>gi|22042730|ref|XM 114346.2|
                               Homo sapiens similar to source of immunodominant
MHC-associated peptides (LOC201595), mRNA
Identities = 15/15 (100%)
Query: 633 gccgcgccgcccgcc 647
          11111111111111
Sbjct: 345 gccgcgccgcccgcc 331
               200..2680
CDS
/product="similar to source of immunodominant MHC-associated peptides"
>gi|4507162|ref|NM 003107.1|
                              Homo sapiens SRY (sex determining region Y)-box 4
(SOX4), mRNA
Identities = 16/16 (100%)
```

```
Query: 634 ccgcgccgcccgccac 649
           111111111111111
Sbjct: 972 ccgcgccgccgccac 957
                  351..1775
  CDS
gi|23395757|tpg|BK000395.1|
                             TPA: Homo sapiens aflatoxin B1-aldehyde reductase
(AKR7A2) mRNA,
Identities = 18/19 (94%)
Query: 640 cgcccgccaccgccgcgc 658
           111111111 11111111
Sbjct: 180 cgcccgccagcgccgcggc 198
 CDS
                23..1102
>gi|5032110|ref|NM 005634.1|
                              Homo sapiens SRY (sex determining region Y)-box 3
(SOX3), mRNA
Identities = 18/18 (100%)
Query: 641
            gcccqccaccqccqcqc 658
            Sbjct: 1044 gcccgccaccgccgcgc 1061
  CDS
                 1..1332
>gi|20589957|ref|NM 139075.1|
                               Homo sapiens two-pore calcium channel protein 2
(TPC2), mRNA
Identities = 15/15 (100%)
Query: 643 ccgccaccgccgcg 657
           111111111111111
Sbjct: 160 ccgccaccgccgcg 146
  CDS
                 102..2360
>gi|16753218|ref|NM 033224.2|
                               Homo sapiens purine-rich element binding protein
B (PURB), mRNA
Identities = 15/15 (100%)
Query: 643 ccgccaccgccgcg 657
           1111111111111
Sbjct: 480 ccgccaccgccgcg 466
   CDS
                  14..952
>gi|291945|gb|L12398.1|HUMD4C
                               Homo sapiens dopamine receptor D4 (DRD4) mRNA,
complete cds
Identities = 15/15 (100%)
Query: 643 ccgccaccgccgcg 657
           Sbjct: 502 ccgccaccgccgcgg 488
                 1..1404
>gi|19401873|gb|AF479827.1|
                             Homo sapiens protein kinase-like protein mRNA,
complete cds
Identities = 18/19 (94%)
Query: 644
           cgccaccgccgcggctggg 662
            11111111111
Sbjct: 1907 cgccaccgccggggctggg 1889
 CDS
                 278..2614
                                    Homo sapiens GITR-D mRNA, complete cds
>gi|7542578|gb|AF241229.1|AF241229
Identities = 15/15 (100%)
```

```
gccgcggctgggccc 665
Query: 651
             1111111111111111
             gccgcggctgggccc 696 CDS: 1..768
Sbjct: 682
>qi|23238193|ref|NM 148901.1|
                                Homo sapiens tumor necrosis factor receptor
superfamily, member 18 (TNFRSF18), transcript variant 2, mRNA
Identities = 15/15 (100%)
Query: 652 gccgcggctgggccc 666
           1111111111111111
Sbjct: 820 gccgcggctgggccc 834 CDS: 139..906
>gi|11038623|ref|NM 004426.1|
                                Homo sapiens polyhomeotic-like 1 (Drosophila)
(PHC1), mRNA
Identities = 15/15 (100%)
Query: 671
            tcttcacccttgtct 685
            11111111111111
Sbjct: 1644 tcttcacccttgtct 1658
                  210..3224
/note="early development regulator 1; mouse Rae28-like"
>gi|190395|gb|M60494.1|HUMPROFILA
                                    Human profilaggrin gene, 3' end
Identities = 15/15 (100%)
Query: 678
            ccttgtcttcgtcca 692
            111111111111111
Sbjct: 4236 ccttgtcttcgtcca 4222
 exon
                 949..4447
 CDS
                 1478..4447
>gi|24475953|ref|NM 013433.2|
                                Homo sapiens karyopherin beta 2b, transportin
(TRN2), mRNA
Identities = 14/14 (100%)
Query: 678
            ccttgtcttcgtcc 691
            111111111111
Sbjct: 2026 ccttgtcttcgtcc 2013
                 292..2955
/note="hypothetical protein FLJ12155"
>gi|8923472|ref|NM 017852.1|
                               Homo sapiens NALP2 protein (NALP2), mRNA
Identities = 15/15 (100%)
Query: 685 ttcgtccacgtctag 699
            1111111111111
        453 ttcgtccacgtctag 439
Sbjct:
   CDS
                   88..3276
/note="PYRIN-Containing APAF1-like"
                              Homo sapiens nucleotide-binding site protein 1
>gi|10198206|gb|AF298547.1|
mRNA, complete cds
Identities = 15/15 (100%)
Query:685
          ttcgtccacgtctag 699
           1111111111111111
Sbjct: 425 ttcgtccacgtctag 411
   CDS
                   78..3179
/note="NBS1; nucleotide-binding site/leucine-rich repeat
(NBS/LRR) family member"
```

```
>qi|4504576|ref|NM 002164.1|
                               Homo sapiens indoleamine-pyrrole 2,3 dioxygenase
(INDO), mRNA
Identities = 17/17 (100%)
Query: 691 cacgtctagttctggga 707
           Sbjct: 258 cacgtctagttctggga 274
                23..1234
>Numatrin) pseudogene and the MDFI gene for MyoD family inhibitor (myogenic
repressor I-MF
Identities = 15/15 (100%)
Query: 697
             tagttctgggacctc 711
             11111111111111
Sbjct: 64761 tagttctgggacctc 64775
CDS
                complement (64067..64810)
/note="dJ696P19.2 (NPM1 (Nucleophosmin, Numatrin) pseudogene)
>gi|22047835|ref|XM 095174.3|
                                Homo sapiens similar to pol protein (LOC168550),
mRNA
Identities = 14/14 (100%)
Query: 699
            gttctgggacctcc 712
            11111111111111
Sbjct: 1249 gttctgggacctcc 1262
CDS
                1..3315
>gi|4506508|ref|NM 002926.1|
                               Homo sapiens regulator of G-protein signalling 12
(RGS12), mRNA
Identities = 15/15 (100%)
Query: 700 ttctgggacctcccg 714
            111111111111
Sbjct: 2786 ttctgggacctcccg 2772 CDS: 55..4185
>gi|22771013|gb|AF542391.1|
                              Homo sapiens selectin P (granule membrane protein
140kDa, antigen CD62) (SELP) gene, complete cds
Identities = 17/18 (94%)
Query:705
            ggacctcccgctcaagag 722
            1111111 111111111
Sbjct: 6869 ggacctcctgctcaagag 6886
   gene
                   <1..>398
>gi|4758621|ref|NM 004770.1|
                               Homo sapiens potassium voltage-gated channel,
Shab-related subfamily, member 2 (KCNB2), mRNA
Identities = 14/14 (100%)
Query:711
            cccgctcaagagcc 724
            1111111111111111
Sbjct: 1329 cccgctcaagagcc 1316
 CDS
                  3..2423
>gi|21595817|gb|BC032731.1|
                              Homo sapiens, Wolf-Hirschhorn syndrome candidate
1, Identities = 14/14 (100%)
Query:713
            cgctcaagagccag 726
            1111111111111
Sbjct: 1876 cgctcaagagccag 1889
  source
                  1..4239
```

```
>qi|19172410|qb|AF480461.1|
                              Homo sapiens mixed lineage kinase-related kinase
MRK-alpha mRNA,
Identities = 14/14 (100%)
Query:715
            ctcaagagccagtg 728
            11111111111111
Sbjct: 2454 ctcaagagccagtg 2467
                196..2598
>gi|23272700|gb|BC035910.1|
                              Homo sapiens, mitogen-activated protein kinase
kinase kinase 7 interacting protein 2,
Identities = 14/14 (100%)
Query:727
            tggtacaccagaag 740
            11111111111111
Sbjct: 1758 tggtacaccagaag 1771
  CDS
                  149..2230
>gi|10947029|ref|NM 006217.2|
                                 Homo sapiens serine (or cysteine) proteinase
inhibitor, clade I(neuroserpin), member 2 (SERPINI2), mRNA
Identities = 19/20 (95%)
Query:737 gaagtctacttttttttcta 756
           111111111111111
Sbjct: 927 gaagtctactttttgttcta 908
   CDS
                   34..1251
>gi|24638453|ref|NM 170665.1|
                                Homo sapiens ATPase, Ca++ transporting, cardiac
muscle, slow twitch 2 (ATP2A2), mRNA
Identities = 14/14 (100%)
Query: 765 actttgtcaccaac 778
           1111111111111
Sbjct: 586 actttgtcaccaac 573
  CDS
                  111..3239
>qi|21536291|ref|NM 001081.2|
                                Homo sapiens cubilin (intrinsic factor-cobalamin
receptor) (CUBN),
Identities = 14/14 (100%)
Query:765
            actttgtcaccaac 778
            111111111111
Sbjct: 8029 actttgtcaccaac 8042
CDS
                 27..10898
/note="intrinsic factor-cobalamin receptor; intrinsic factor B12-receptor"
>gi|6912355|ref|NM 012155.1|
                               Homo sapiens echinoderm microtubule associated
protein like 2 (EML2),
Identities = 14/14 (100%)
Query:766
            ctttgtcaccaact 779
            111111111111111
Sbjct: 1595 ctttgtcaccaact 1608
   CDS
                   36..1985
>gi|18597004|ref|XM 051693.4|
                                 Homo sapiens mitogen inducible 2 (MIG2), mRNA
Identities = 15/15 (100\%)
Query: 768 ttgtcaccaacttct 782
           1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1
Sbjct: 838 ttgtcaccaacttct 852
```

CDS: 238..2280 >gi|3335149|gb|AF055377.1|AF055377 Homo sapiens long form transcription factor C-MAF (c-maf) mRNA, Identities = 15/15 (100%) Query:771 tcaccaacttctcgt 785 Sbjct: 1864 tcaccaacttctcgt 1850 808..2019 /note="b-zip transcription factor" >gi|7304920|ref|NM 013449.1| Homo sapiens bromodomain adjacent to zinc finger domain, 2A (BAZ2A), Identities = 14/14 (100%) Query:800 tgagtggaggacta 813 1111111111111 Sbjct: 1587 tgagtggaggacta 1600 CDS 740..6376 >gi|5419653|emb|AL034553.12|HS914P20 Human DNA sequence from clone RP5-914P20 on chromosome 20q13.13-13.2 Contains the gene for activity-dependent neuroprotective protein (ADNP, KIAA0784) , a PSMD10 (proteasome (prosome, macropain) 26S subunit, non-ATPase, 10) pseudogene, the DPM1 gene fo> Identities = 19/20 (95%) Query: 803 gtggaggactaataagactt 822 Sbjct: 10723 gtggaggactaatgagactt 10704 misc\_feature: 10509..10953 >gi|14388625|gb|AF243083.1|F243081S03 Homo sapiens intrinsic factor-vitamin B12 receptor (CUBN) gene, exons 5 and 6 Identities = 16/16 (100%)Query:817 gacttatatactgtcc 832 1111111111111111 Sbjct: 809 gacttatatactgtcc 824 CDS AF243085.1:692..854 >qi|24527258|qb|AY071904.1| Homo sapiens ribonuclease/angiogenin inhibitor (RNH) mRNA, complete Identities = 17/18 (94%) Query:824 atactgtccgttctttga 841 1:11:11 Sbjct: 532 atactgtcagttctttga 515 CDS 1..1386 >gi|9558724|ref|NM 013291.1| Homo sapiens cleavage and polyadenylation specific factor 1, 160kDa(CPSF1), mRNA Identities = 14/14 (100%) Query:834 ttctttgagggagg 847 11111111111111 Sbjct: 1313 ttctttgagggagg 1300 CDS 52..4380 >gi|20143921|ref|NM 133437.1| Homo sapiens titin (TTN), transcript variant novex-2, mRNA Identities = 14/14 (100%)

```
Query:838
             ttgagggaggacct 851
             11111111111111
Sbjct: 56027 ttgagggaggacct 56014
CDS
                 224..81580
/note="isoform novex-2 is encoded by transcript variant
novex-2; connectin; CMH9, included"
Query:839 tgagggaggacctc 852
           1111111111111
Sbjct: 819 tgagggaggacctc 832
   CDS
                   100..1155
/product="similar to ARP2/3 complex 41 kDa subunit(P41-ARC) (Actin-related
protein 2/3 complex subunit 1B)"
>qi|21426828|ref|NM 144773.1| Homo sapiens G protein-coupled receptor 73-like
     (GPR73L1), mRNA
Identities = 14/14 (100%)
Query: 848 gacctccctatgga 861
           Sbjct: 100 gacctccctatgga 113 CDS: 1..1155
>qi|21327026|qb|AF506288.1| Homo sapiens prokineticin receptor 2 (PKR2) mRNA,
complete cds
Identities = 14/14 (100%)
Query: 848 gacctccctatgga 861
           11111111111111
Sbjct: 100 gacctccctatgga 113 CDS
                                             1..1155
                             Homo sapiens paired box gene 8 (PAX8), transcript
>gi|7669541|ref|NM 013992.1|
variant PAX8E,
Identities = 14/14 (100%)
Query: 849 acctccctatggac 862
           1111111111111
Sbjct: 582 acctccctatggac 595 CDS
                                             161..1024
>gi|16160856|ref|XM 007763.5|
                               Homo sapiens myosin VA (heavy polypeptide 12,
myoxin) (MYO5A), mRNA
Identities = 19/20 (95%)
Query:863 cgtaactggagagtctgggg 882
           Sbjct: 724 cgtaagtggagagtctgggg 743
   CDS
                   245..5812
/product="similar to Myosin Va (Myosin 5A) (Dilute myosin
heavy chain, non-muscle) (Myosin heavy chain 12) (Myoxin)"
>gi|4757807|ref|NM 001683.1| Homo sapiens ATPase, Ca++ transporting, plasma
membrane 2 (ATP2B2),
Identities = 15/15 (100%)
Query:865
            taactggagagtctg 879
            11111111111111111
Sbjct: 1298 taactggagagtctg 1312
                    577..4173
/note="PMCA-2"
```

```
>qi|16904386|ref|NM 013363.2|
                                Homo sapiens procollagen C-endopeptidase
enhancer 2 (PCOLCE2), mRNA
Identities = 14/14 (100%)
Query: 867 actggagagtctgg 880
           11111111111111
Sbjct: 308 actggagagtctgg 321
    CDS
                    197..1444
>gi|7706548|ref|NM 016507.1|
                               Homo sapiens CDC2-related protein kinase 7
(CRK7), mRNA
Identities = 15/15 (100%)
Query:868
            ctggagagtctgggg 882
            111111111111111
Sbjct: 2092 ctggagagtctgggg 2078
    CDS
                    34..4506
>gi|24850118|ref|NM 170605.1|
                                Homo sapiens PDZ domain protein (Drosophila
inaD-like) (INADL), mRNA
Identities = 14/14 (100%)
Query:868
            ctggagagtctggg 881
            Sbjct: 1570 ctggagagtctggg 1557
  CDS
                  1..5406
>gi|21536251|ref|NM 015678.2|
                                Homo sapiens neurobeachin (NBEA), mRNA
Identities = 14/14 (100%)
 Strand = Plus / Plus
Query:868
            ctggagagtctggg 879
            11111111111
Sbjct: 3008 ctggagagtctggg 3021
   CDS
                   207..9047
>gi|21434742|gb|AF467288.1|
                              Homo sapiens BCL8B protein (BCL8B) mRNA, complete
 Identities = 14/14 (100%)
Query:868
            ctggagagtctggg 881
            11111111111111
Sbjct: 3008 ctggagagtctggg 3021
CDS
                207..9047
>gi|7662409|ref|NM 014963.1|
                               Homo sapiens KIAA0963 protein (KIAA0963), mRNA
Identities = 15/15 (100%)
Query: 868
           ctggagagtctgggg 882
            11111111111111
Sbjct: 2832 ctggagagtctgggg 2846 CDS
                                                 216..4316
>gi|22041826|ref|XM_172259.1|
                                Homo sapiens similar to 60S ribosomal protein
L21 (LOC255888), mRNA
Identities = 16/16 (100%)
Query:869 tggagagtctggggtt 884
           111111111111111
Sbjct: 530 tggagagtctggggtt 545
CDS
                 1..579
>gi|17157996|ref|NM 058167.1| Homo sapiens ubiquitin-conjugating enzyme E2, J2
(UBE2J2), mRNA
Identities = 14/14 (100%)
```

```
Query:870
          ggagagtctggggt 883
           1111111111111
Sbjct: 652 ggagagtctggggt 639
 CDS
                205..879
                               Homo sapiens myosin VIIA and Rab interacting
>gi|23308602|ref|NM 015460.1|
protein (MYRIP), mRNA
Identities = 15/15 (100%)
Query:871
           gagagtctggggttc 885
            1111111111111
Sbjct: 1861 gagagtctggggttc 1847
    CDS
                    137..2716
>gi|6912705|ref|NM 012455.1|
                              Homo sapiens SEC7 homolog (TIC), mRNA
Identities = 14/14 (100%)
Query:872 agagtctggggttc 885
           1111111111111
Sbjct: 762 agagtctggggttc 749
                  64..3234
/note="ADP-ribosylation factor guanine nucleotide-exchange
factor 6"
                               Homo sapiens insulin receptor (INSR), mRNA
>qi|22051239|ref|XM 048346.4|
Identities = 14/14 (100%)
Query:884
           tcgttgaccgtctt 897
            Sbjct: 3251 tcgttgaccgtctt 3238
   CDS
                  181..4218
>gi|4507600|ref|NM 003807.1|
                              Homo sapiens tumor necrosis factor (ligand)
superfamily, member 14(TNFSF14), mRNA
Identities = 14/14 (100%)
Query: 901 cggtcttacttcgg 914
          Sbjct: 742 cggtcttacttcgg 755
CDS
               49..771
>qi|2745709|qb|U89310.1|AH005788S02 Homo sapiens nucleophosmin phosphoprotein
(NPM) gene, exon 2
Identities = 14/14 (100%)
Query: 908 acttcggttctttt 921
           111111111111
Sbjct: 411 acttcggttctttt 424 CDS U89311.1:416..535
                              Human mRNA for KIAA0335 gene, partial cds
>qi|20521002|dbj|AB002333.2|
Identities = 18/18 (100%)
Query: 914 gttctttttaatttcttc 931
           <829..5283
Sbjct: 216 gttctttttaatttcttc 233 CDS
>gi|19923778|ref|NM_006479.2|
                               Homo sapiens RAD51-interacting protein (PIR51),
mRNA
Identities = 16/16 (100%)
```

```
Query: 915 ttctttttaatttctt 930
           1111111111111111
Sbjct: 703 ttctttttaatttctt 688
                  51..1058
  CDS
>gi|4505610|ref|NM 002582.1| Homo sapiens poly(A)-specific ribonuclease
(deadenylation nuclease) (PARN), mRNA
Identities = 16/16 (100%)
Query:915
           ttctttttaatttctt 930
            Sbjct: 1897 ttctttttaatttctt 1882
 CDS
                 58..1977
>qi|20538519|ref|XM 057659.6|
                               Homo sapiens similar to RIKEN cDNA 2310005N03
(LOC116228), mRNA
Identities = 18/18 (100%)
Query: 915 ttctttttaatttcttct 932
           11111111111111111
Sbjct: 629 ttctttttaatttcttct 612 CDS
                                                 337..693
>qi|18579348|ref|XM 090294.1| Homo sapiens similar to 10-
formyltetrahydrofolate dehydrogenase(LOC160428), mRNA
Identities = 19/19 (100%)
Query: 916 tctttttaatttcttctac 934
            111111111111111111
Sbjct: 2263 tctttttaatttcttctac 2245 CDS
                                                    1..2928
>gi|4503510|ref|NM 003758.1| Homo sapiens eukaryotic translation initiation
factor 3, subunit 1 alpha, 35kDa (EIF3S1), mRNA
Identities = 17/17 (100%)
Query: 916 tctttttaatttcttct 932
           111111111111111
Sbjct: 352 tctttttaatttcttct 336 CDS
                                                61..837
>gi|23271901|gb|BC036021.1|
                             Homo sapiens, Similar to Bmp2-inducible kinase,
Identities = 20/21 (95%)
Query: 917 ctttttaatttcttctactac 937
          Sbjct: 796 ctttttaatttcttcttctac 776
 CDS
                 128..2116
>gi|18375633|ref|NM 004639.2| Homo sapiens HLA-B associated transcript 3
(BAT3), transcript variant 1, mRNA
Identities = 15/15 (100%)
Query: 931 ctactacgaggttct 945
            111111111111111
Sbjct: 1172 ctactacgaggttct 1186 CDS
                                                285..3683
>gi|17485359|ref|XM 066371.1| Homo sapiens LOC129184 (LOC129184), mRNA
Identities = 16/16 \overline{(100\%)}
Query:1016 tgtgggtgccagggtc 1031
           11111111111111111
Sbjct: 866 tgtgggtgccagggtc 851 CDS
                                               1..960
```

```
>qi|12653994|qb|BC000795.1|BC000795
                                     Homo sapiens, hypothetical protein.
 Identities = 15/15 (100%)
Query:1017 gtgggtgccagggtc 1031
           111111111111111
Sbjct: 306 gtgggtgccagggtc 292 CDS
                                               49..1260
>gi|1668741|emb|X90762.1|HSHHA5GEN
                                     Homo sapiens hHa5 gene
Identities = 16/16 (100%)
              tgggtgccagggtctc 1033
Query: 1018
              1111111111
                                                    1112..1365 number=8
Sbjct: 1215
              tgggtgccagggtctc 1230 exon
>gi|18582587|ref|XM 090689.1|
                                Homo sapiens similar to S antigen precursor -
malaria parasite(Plasmodium falciparum) (strain Wellcome) (LOC161088),
Identities = 19/20 (95%)
Query:1019 gggtgccagggtctcaggtg 1038
            111111111 1111111111
Sbjct: 372 gggtgccagcgtctcaggtg 353 CDS
                                                     1..1221 Chr. 13
>qi|9863549|emb|AL157718.10| Human DNA sequence from clone RP11-23013 on
chromosome 20 Contains a putative novel gene, a CpG island, ESTs and GSSs,
complete sequence [Homo sapiens]
Identities = 19/20 (95%)
Query: 1021
               gtgccagggtctcaggtgca 1040
               Sbjct: 40364
               gtgccagggtctcagctgca 40345
                complement (40329..40883) note="match: GSS: Em:AQ606491"
misc_feature
                                 Human gene for plasminogen activator inhibitor
>gi|35258|emb|X13345.1|HSPAI19
1 (PAI-1) exon 9/ Identities = 19/20 (95%)
Query:1024
             ccagggtctcaggtgcagac 1043
             11111111111111111111
Sbjct: 264
             ccagggtctcaggtggagac 245
precursor RNA
                <1..1835 /note="primary transcript"
>gi|18581862|ref|XM 090590.1| Homo sapiens LOC160925 (LOC160925), mRNA
Identities = 15/15 (100%)
Query:1064 agcaactctcgagtt 1078
           11111111111111111
                                               1..870
Sbjct: 374 agcaactctcgagtt 360 CDS
                             Homo sapiens, Similar to tyrosine 3-
>qi|24660383|qb|BC039025.1|
monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon
polypeptide, clone MGC: 47805 IMAGE: 6070099, mRNA,
Identities = 17/17 (100%)
Query:1077 tttcgattttgctgtgg 1093
           111111111111111111
Sbjct: 58 tttcgattttgctgtgg 74
                107..883
CDS
>qi|18253109|dbj|AB065437.1|
                               Homo sapiens C1s gene for complement C1s,
promoter region and exon 1
```

Identities = 15/15 (100%)

ttttcgggaaagtca 1124 (Exon wechsel) Query: 1112 1111111111111111 Sbjct: 2584 ttttcgggaaagtca 2570 promoter 1..2826 /function="complement activation" 2827..2978 >gi|22047240|ref|XM 175003.1| Homo sapiens LOC256626 (LOC256626), mRNA Identities = 15/15 (100%)Query: 1785 gaaaagtgacctgaa 1799 11111111111111 Sbjct: 1768 gaaaagtgacctgaa 1754 CDS 1..1914 >qi|11990557|qb|AF170052.1|AF170052 HIV-2 isolate 97227 from France envelope glycoprotein (env) gene, partial cds Identities = 15/15 (100%) Query: 1825 gtatggcctctgtcc 1839 Sbjct: 866 gtatggcctctgtcc 852 CDS <1..>2243 >gi|4502528|ref|NM 000721.1| Homo sapiens calcium channel, voltage-dependent, alpha 1E subunit (CACNA1E), mRNA, note="brain specific" Identities = 15/15 (100%) Query: 1827 atggcctctgtccgg 1841 111111111111111 166..6921 Sbjct: 1433 atggcctctgtccgg 1419 CDS >gi|20559017|ref|XM 166786.1| Homo sapiens similar to SUMO-1 activating enzyme subunit 1; SUMO-1 activating enzyme E1 N subunit; sentrin/SUMO-activating protein AOS1; ubiquitin-like protein SUMO-1 activating enzyme (LOC220311), mRNA Identities = 16/16 (100%) Query: 1842 gatacacacggggaag 1857 111111111111111 Sbjct: 886 gatacacacggggaag 901 CDS 1..1134 /gene="LOC220311">qi|4758617|ref|NM 004693.1| Homo sapiens cytokeratin type II (K6HF), mRNA Identities = 16/16 (100%) Query: 1845 acacacggggaagctg 1860 Sbjct: 366 acacacggggaagctg 351 CDS 19..1674 >gi|17149843|ref|NM 057092.1| Homo sapiens FK506 binding protein 2, 13kDa (FKBP2), transcript variant 2, mRNA Identities = 14/14 (100%) Query:1847 acacggggaagctg 1860 111111111111 Sbjct: 269 acacggggaagctg 282 CDS 103..531 misc feature 223..504 /note="FKBP; Region: FKBP-type peptidyl-prolyl cis-trans isomerase" >gi|20127426|ref|NM 002252.2| Homo sapiens potassium voltage-gated channel,

subfamily S, member 3 (KCNS3), mRNA

delayed-rectifier,

```
Identities = 15/15 (100%)
Query:1847 acacggggaagctgc 1861
           111111111111111
Sbjct: 653 acacggggaagctgc 667
  CDS
                  403..1878
>qi|24981010|qb|BC039695.1|
                             Homo sapiens, Janus kinase 2 (a protein tyrosine
kinase), clone
Identities = 14/14 (100%)
Query: 1865 cattattcttcaaa 1878
           111111111111
Sbjct: 3354 cattattcttcaaa 3341
  CDS
                 108..3497
>gi|20149552|ref|NM 004414.3|
                               Homo sapiens Down syndrome critical region gene
1 (DSCR1), mRNA
Identities = 15/15 (100%)
Query:1872 cttcaaacgagtcag 1886
          1111111111111
Sbjct: 215 cttcaaacgagtcag 229
 CDS
                66..659
>gi|6648540|gb|U53821.1|HSU53821
                                  Homo sapiens adapt78 protein gene, partial
 Identities = 15/15 (100%)
Query:1872 cttcaaacgagtcag 1886
           Sbjct: 219 cttcaaacgagtcag 233
                 70..>562
  CDS
>gi|8922685|ref|NM 018228.1| Homo sapiens hypothetical protein FLJ10811
(FLJ10811), mRNA
Identities = 17/17 (100%)
Query: 1955 ctggaagagctggggcc 1971
            11111111111111111
Sbjct: 923
            ctggaagagctggggcc 907 CDS
                                                 146..2254
>gi|17298301|gb|AF283402.1|F283327S74
                                       Homo sapiens candidate tumor suppressor
protein (LRP1B) gene, exon 76
Identities = 17/17 (100%)
Query: 2034 ttcttaaaatttttact 2050
            307 ttcttaaaatttttact 291 CDS
Sbjct:
join(AF283376.1:<285..407,AF283377
>gi|20545629|ref|XM 121159.1|
                               Homo sapiens LOC206321 (LOC206321), mRNA
Identities = 25/28 (89%)
Query: 2133 agatagaacgagacattagagcaaagtt 2161
            Sbjct: 527
            agatagaacgagatctgagagcaaagtt 500 CDS
                                                            1..1176
>gi|22054646|ref|XM 069110.2|
                               Homo sapiens similar to hypothetical protein
FLJ23231 (LOC134973), mRNA
Identities = 16/16 (100%)
```

Query: 2155 caaagtttttgttcca 2170 111111111111111 1..2475 Sbjct: 915 caaagtttttgttcca 930 CDS >gi|6382057|ref|NM 007313.1| Homo sapiens v-abl Abelson murine leukemia viral oncogene homolog 1(ABL1), transcript variant b, mRNA Identities = 18/18 (100%) Query: 2163 ttgttccacaaaaacatt 2180 111111111111111111111 Sbjct: 135 ttgttccacaaaaacatt 118 CDS 1..3447 >gi|3095103|gb|AF044579.1|AF044579 Homo sapiens translocation related noncoding gene (TNRG10) mRNA, complete sequence Identities = 17/17 (100%) Query: 2164 tqttccacaaaaacatt 2180 11111111111111111 Sbjct: 2361 tgttccacaaaaacatt 2345 1..2726 gene repeat region 326..547 repeat region 2599..2709 Intron (BB/SHR) >gi|5453963|ref|NM 006251.1| Homo sapiens protein kinase, AMP-activated, alpha 1 catalytic subunit (PRKAA1), mRNA Identities = 16/16 (100%) Query: 316 tcttctqaqcactcaa 331 111111111111111 Sbjct: 943 tcttctgagcactcaa 928 CDS 24..1676 note="AMPK alpha 1; Protein kinase, AMP-activated, catalytic, alpha-1" >gi|23503326|ref|NM 018682.2| Homo sapiens myeloid/lymphoid or mixed-lineage leukemia 5 (trithorax homolog, Drosophila) (MLL5), mRNA Identities = 16/16 (100%) Query: 365 catcagatgaaggatc 380 1111111111111111 Sbjct: 1003 catcagatgaaggatc 988 202..5778 CDS /note="contains PHD and SET domains; similar to Drosophila trithorax" /product="myeloid/lymphoid or mixed-lineage leukemia 5 >qi|1418773|emb|X97186.1|HSE14 H.sapiens mRNA for E14 protein Identities = 17/17 (100%) Query: 428 gaagacaaagagttctt 444 Sbjct: 1509 gaagacaaagagttctt 1493 35..4318 >gi|1381666|gb|U58852.1|HSU58852 Human NPAT mRNA, complete cds Identities = 17/17 (100%) Query: 428 gaagacaaagagttctt 444 111111111111111111 Sbjct: 1475 gaagacaaagagttctt 1459

CDS

1..3528

annotated domains of transcriptional factor oct-1, nucleolus-cytoplasm shuttle phosphoprotein and protein kinases" >gi|22065878|ref|XM 040846.5| Homo sapiens nuclear protein, ataxiatelangiectasia locus (NPAT), Identities = 17/17 (100%) Query: 428 gaagacaaagagttctt 444 1111111111111111111 Sbjct: 1509 gaagacaaagagttctt 1493 CDS 35..4318 /product="similar to NPAT" >gi|18079322|ref|NM\_080612.1| Homo sapiens GRB2-associated binding protein 3 (GAB3), mRNA Identities = 17/17 (100%) Query: 578 ggggtccaagaccagag 594 Sbjct: 1254 ggggtccaagaccagag 1238 CDS 33..1793 /function="differentiation signaling" >gi|20270211|ref|NM 033396.1| Homo sapiens tankyrase 1 binding protein 1, 182kDa (TNKS1BP1), mRNA Identities = 16/16 (100%) Query: 583 ccaagaccagagtaaa 598 111111111111111 Sbjct: 2725 ccaagaccagagtaaa 2740 CDS 308..5497 /product="tankyrase 1-binding protein of 182 kDa" >gi|21626462|ref|NM 000038.2| Homo sapiens adenomatosis polyposis coli (APC), Identities = 16/16 (100%) Query: 616 gaccaaaaaggaactg 631 1111111111111111 Sbjct: 8232 gaccaaaaaggaactg 8247 39..8570 /product="adenomatosis polyposis coli"

/note="predicted amino acids have three regions which share similarity to